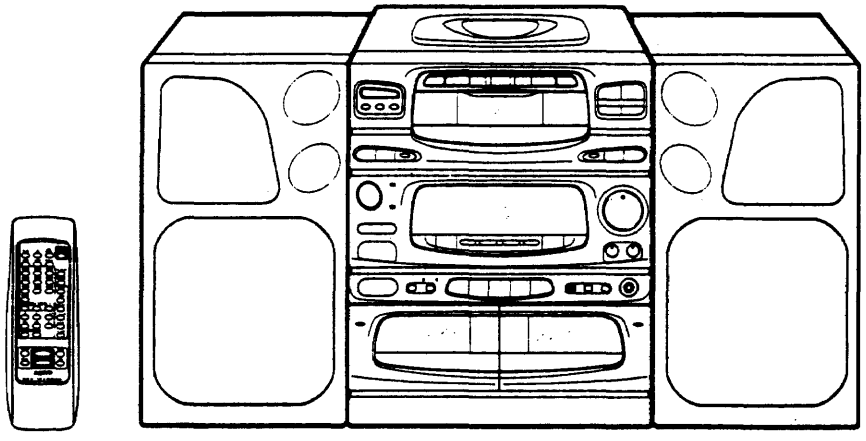
SANYO

FILE NO.

Service Manual

Mini Component System

DC-F280 (XE)
DC-F280U (UK)



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PRODUCT CODE No.
129 487 05 (XE)
129 488 04 (UK)

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This service manual consists of "DC-F280U" (Main unit),
"RB-DC-F280U" (Remote control) and "SX-F280L & SX-F280R" (Speaker system).

REFERENCE No. SM580676

Notice

SANYO

[V] CORRECTION [ ] PRODUCTION CHANGE

[ ] SERVICE FLASH [ ] ADD INFORMATION

[ ] [ ]

FILE NO.

Please add this notice to the Service Manual listed below.

Category : Mini Compornent System **Date :** Jun. 1997

Model : DC-F280 Series, DC-F380 Series

Destination : Below **Reference No. :** Below **Issue Number :** Below

The reason of change.

A : Misprint B : Quality Reliabilities C : Standardization

D : Design E : F :

G :

Model	Desti-nation	Page		Ref. No.	Issue No.	Part No.	Description	Q'ty	Reference No.	Reason
DC-F280KR	S S	P21	Old	54	3	614 273 1956	CABINET	1	SM580650-03	A
DC-F280	AU				3				SM580678-03	
DC-F280U	UK				4				SM580676-04	
DC-F280	XE				3				SM580676-03	
DC-F380KR	S S	P21	New	54	2	614 273 2670	ASSY,CABINET	1	SM580647-02	
DC-F380	AU				2				SM580680-02	
DC-F380U	UK				2				SM580674-02	
DC-F380	XE				2				SM580674-02	

Prod. Cord : 129 487 01 (DC-F280KR/SS)
129 487 04 (DC-F280U/UK)
129 487 05 (DC-F280/XE)
129 487 06 (DC-F280/AU)
129 478 01 (DC-F380KR/SS)
129 478 04 (DC-F380U/UK)
129 478 05 (DC-F380/XE)
129 478 06 (DC-F380/AU)

Jun. / '97 / 8500 NS Printed in Japan.

SANYO Technosound Co., Ltd
Osaka, Japan

REFERENCE No. See above

Notice

SANYO

☐	CORRECTION	☑	PRODUCTION CHANGE
☐	SERVICE FLASH	☐	ADD INFORMATION
☐		☐	

FILE NO.

Please add this notice to the Service Manual listed below.

Category : **Mini Component System** Date : July. 1996

Model : **DC-F280/DC-F280U**

Destination : XE/UK Reference No. : SM580676 Issue Number : 1

Prod. Cord : 129 487 05 (XE)
129 488 04 (UK)

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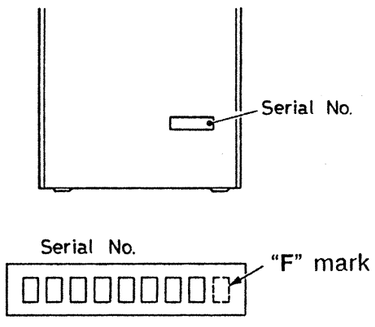
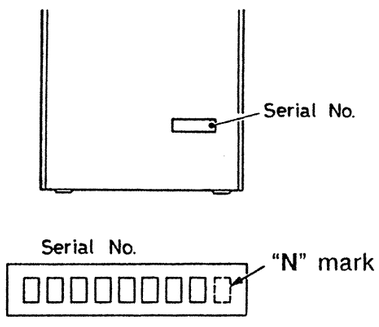
5. CD CHANGER MECHANISM PARTS LIST 13

Since there are two type of DC-F280, which are used in different CD changer mechanism, before servicing, please be sure which type of DC-F280 you will repair.
You can find the proper type of it by comfirming the serial number.

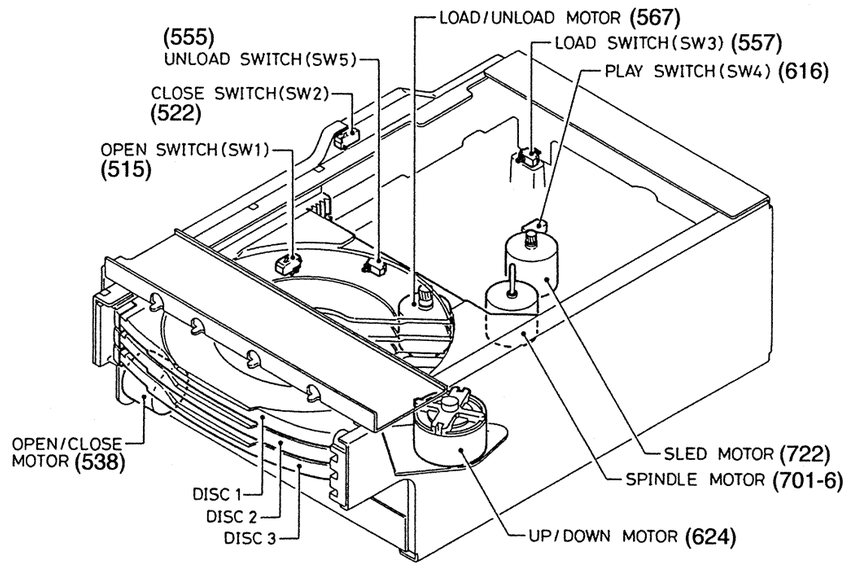
TYPE	1	2
SERIAL NO.		
CD MECHANISM	PM-CDCH31/SP	PM-CD96CHN1/SP
SERVICE MANUAL AND (NOTICE)	SM580676	SM580676 SM580676-01 (PRODUCTION CHANGE NOTICE)

REFERENCE No. SM580676-01

CD CHANGER OPERATION DESCRIPTION

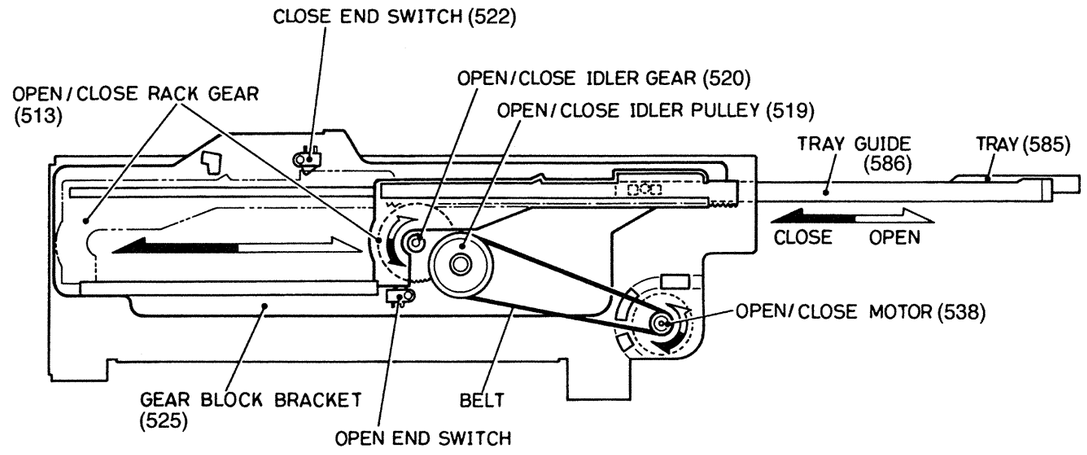
- This set is capable of stocking and playing up to 3 CDs.
- While playing a CD, other discs can be replaced.
  In this case, press the button for the disc No. you wish to remove, and then press the OPEN/CLOSE button.
- When the "POWER" button is turned off, the power turns off after the discs are loaded in the disc trays.

a. MOTOR & MECHANISM SWITCHES LAYOUT



b. FUNCTION
(1) OPEN/CLOSE

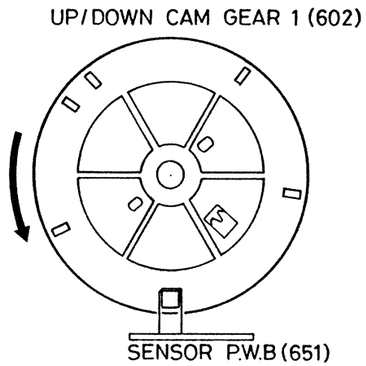
(a) The rotation of the OPEN/CLOSE MOTOR rotates the OPEN/CLOSE IDLER GEAR via the BELT and PULLEY, and the RACK GEAR which is intermeshed with the OPEN/CLOSE IDLER GEAR moves forward during "OPEN", backwards during "CLOSE".



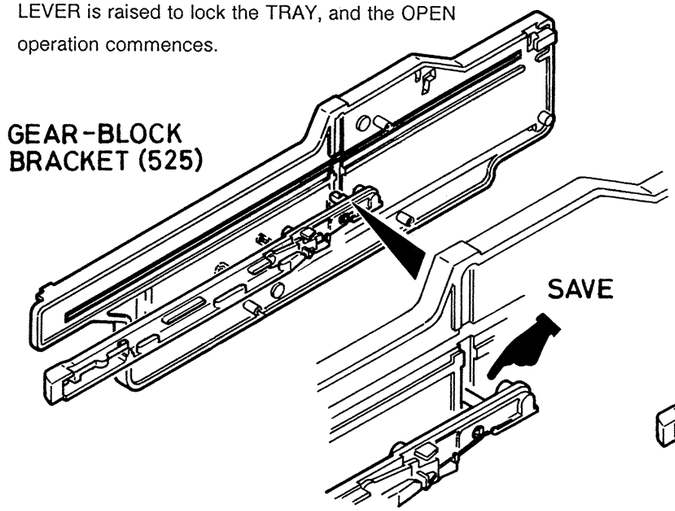
CD CHANGER OPERATION DESCRIPTION

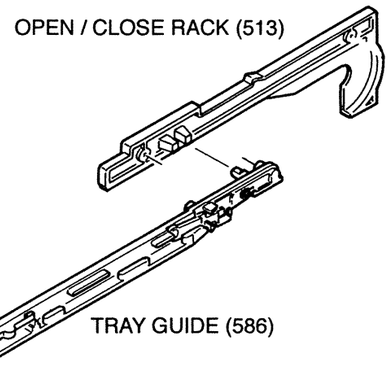
- The HOME POSITION is reached when the largest square hole in the UP/DOWN CAM GEAR (602) is between the SENSORS.

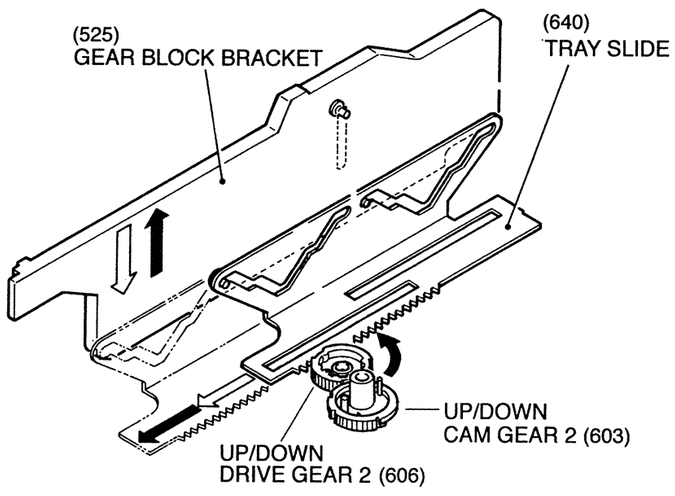
(b) Rotate the UP/DOWN CAM GEAR (602) counterclockwise (with OPEN/CLOSE during PLAY) or clockwise (with normal OPEN/CLOSE), raise the GEAR-BLOCK BRACKET, stop at the selected TRAY, hold the TRAY GUIDE by means of the OPEN/CLOSE RACK and save the other TRAY GUIDES.



(c) The OPEN/CLOSE motor starts running, the OPEN/CLOSE RACK moves foward, the TRAY LOCK LEVER is raised to lock the TRAY, and the OPEN operation commences.

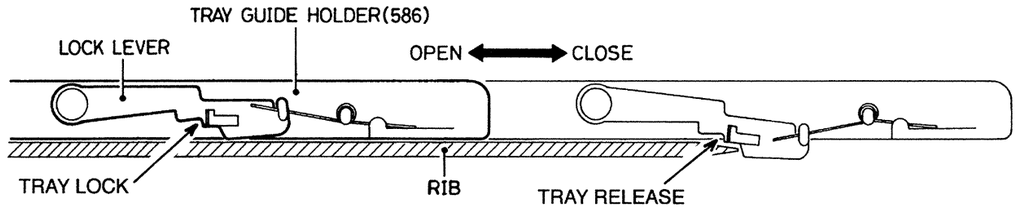






CD CHANGER OPERATION DESCRIPTION

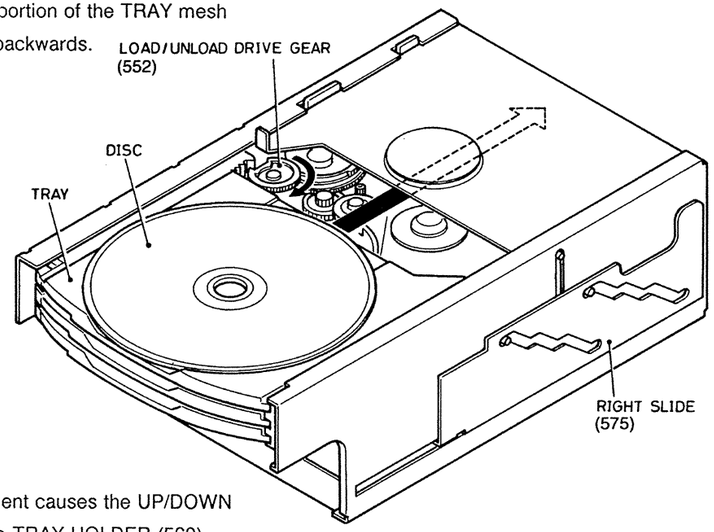
(d) When the TRAY closes and it reaches the tip of the RIB part of the LEFT TRAY GUIDE (589), the LOCK LEVER is lowered to release the TRAY, and loading proceeds.



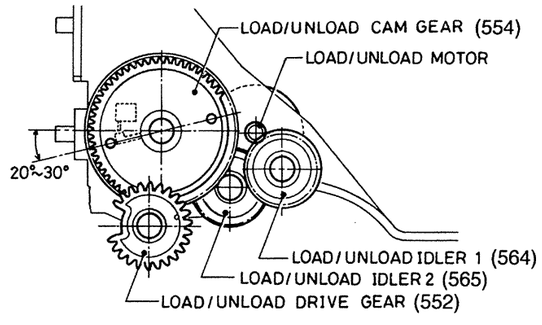
(2) LOADING

(a) The rotation of the LOAD/UNLOAD MOTOR rotates the LOAD/UNLOAD DRIVE GEAR (552) in the clockwise direction.

(b) The DRIVE GEAR and the gear portion of the TRAY mesh together and the TRAY movers backwards.

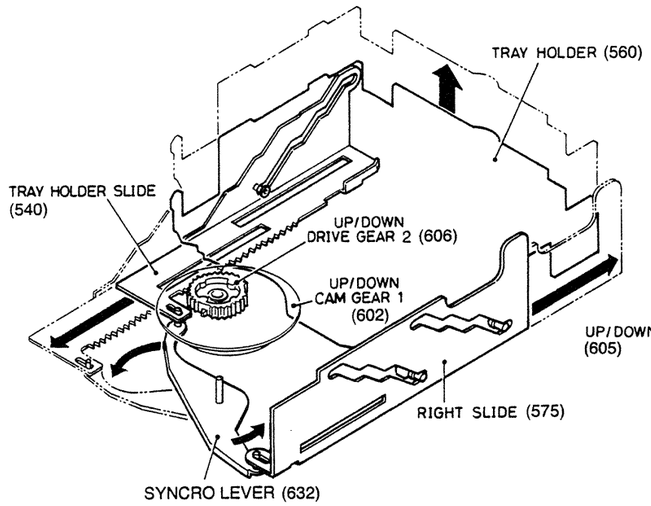


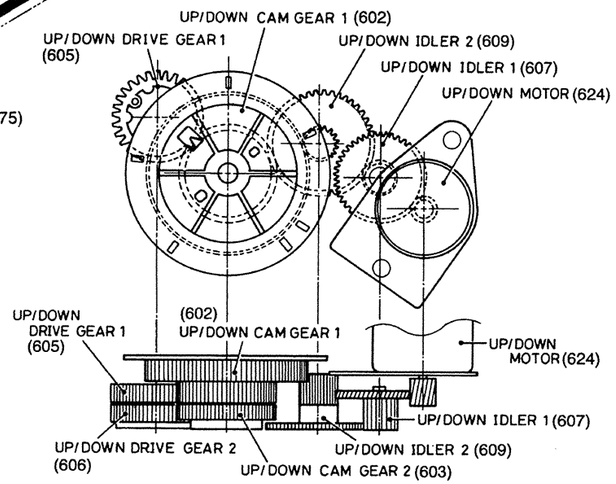
(c) The completion of TRAY movement causes the UP/DOWN MOTOR to operate and lower the TRAY HOLDER (560), putting the unit to chucking stayus.

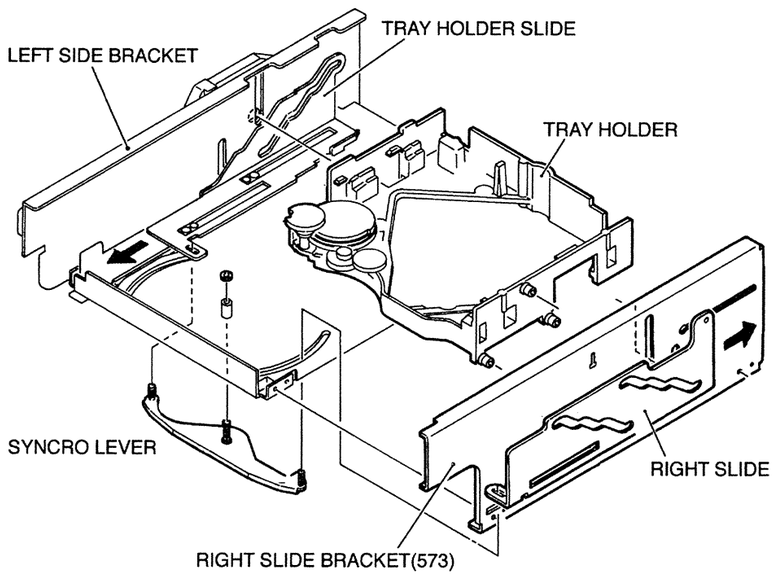


CD CHANGER OPERATION DESCRIPTION

(d) The rotation of the UP/DOWN MOTOR (624) rotates the UP/DOWN DRIVE GEAR (605) in the counter-clockwise direction. In connection with this, the TRAY HOLDER SLIDE (540) moves forward, and at the same time, the RIGHT SLIDE (575) is moved backwards by the SYNCRO LEVER (632).




UP/DOWN CAM GEAR 1 (602)
UP/DOWN DRIVE GEAR 1 (605)
UP/DOWN IDLER 2 (609)
UP/DOWN IDLER 1 (607)
UP/DOWN MOTOR (624)
UP/DOWN DRIVE GEAR 1 (605)
(602) UP/DOWN CAM GEAR 1
UP/DOWN MOTOR (624)
UP/DOWN IDLER 1 (607)
UP/DOWN DRIVE GEAR 2 (606)
UP/DOWN IDLER 2 (609)
UP/DOWN CAM GEAR 2 (603)



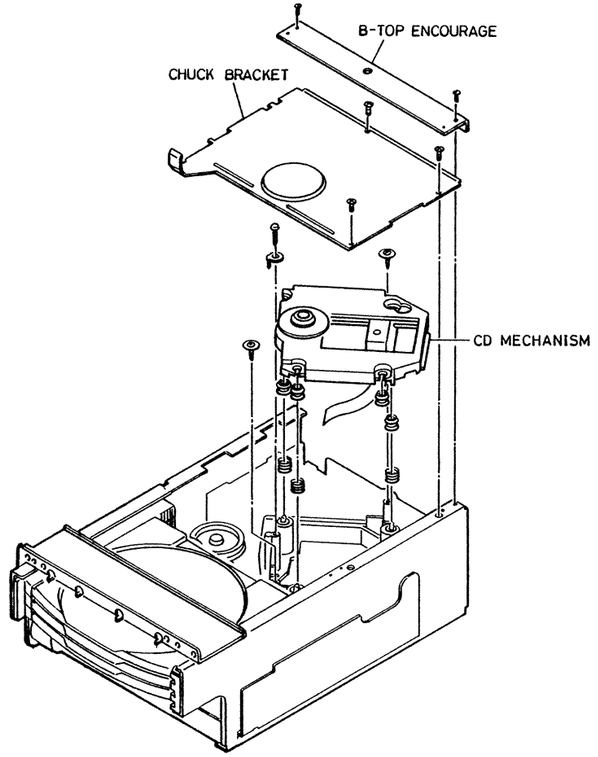
CD CHANGER REPLACEMENT

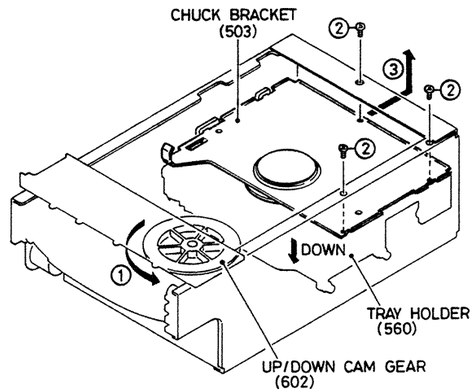
a. LOAD/UNLOAD FUNCTION

(1) Remove the B TOP ENCOURAGE.
(2) Remove the CD MECHANISM.

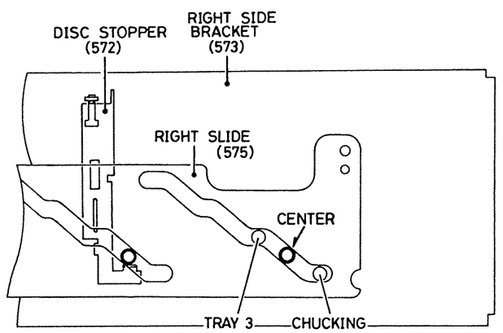
b. HOW TO REMOVE THE TRAYS

(1) Remove the CHUCK BRACKET.

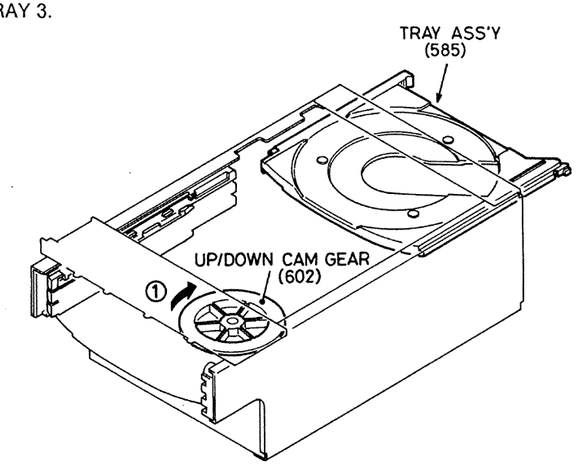




(2) Rotate the UP/DOWN CAM GEAR (602) and position the collar part of the TRAY HOLDER visible from the RIGHT SLIDE at the midpoint between the CHUCKING and TRAY 3.



(3) Remove the three TRAYS through the gap at the back.

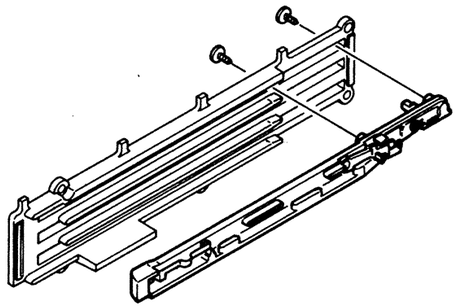


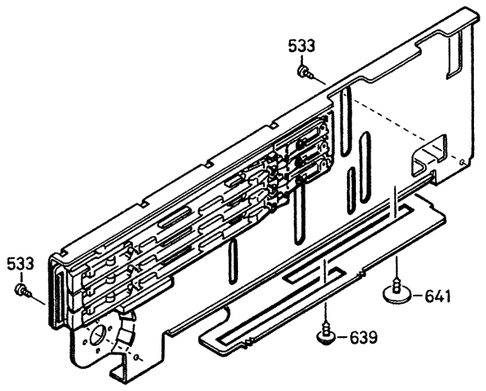
c. REPLACING THE TRAY GUIDE

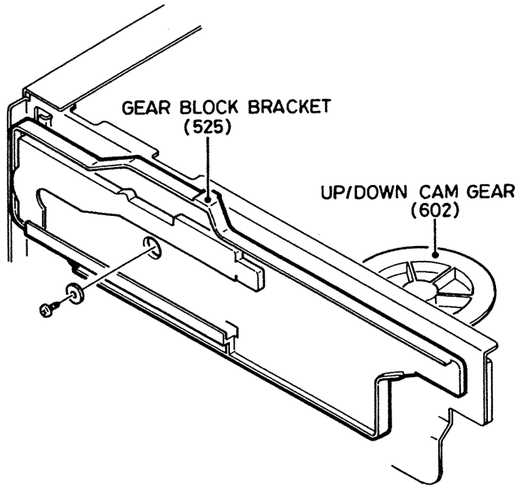
- Have the LEFT TRAY GUIDE HOLDER and TRAY GUIDE ready before proceeding.

(1) Turn the UP/DOWN CAM GEAR (602) and remove the setscrew of the TRAY HOLDER from the hole in the GEAR BLOCK BRACKET.

(2) Turn the UP/DOWN CAM GEAR (602) counterclockwise as far as it will go, and remove the SCREWS (533 x 2, 639, 641).

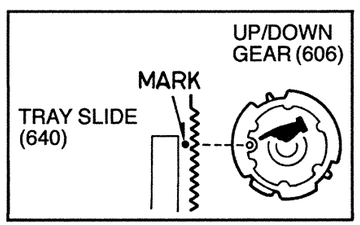


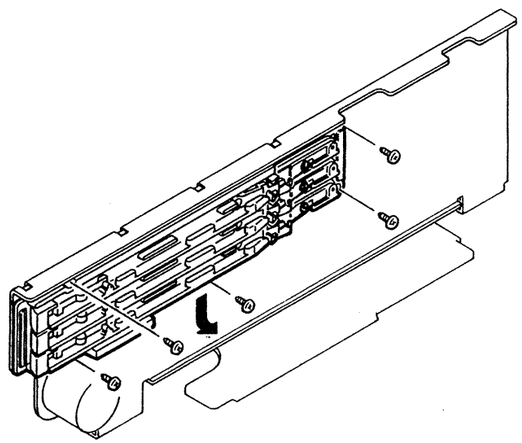




(3) Remove the five setscrews of the LEFT TRAY GUIDE HOLDER, and remove it in the direction of the arrow.

(4) When assembling the parts, align the TRAY SLIDE (640) and UP/DOWN DRIVE GEAR (606).

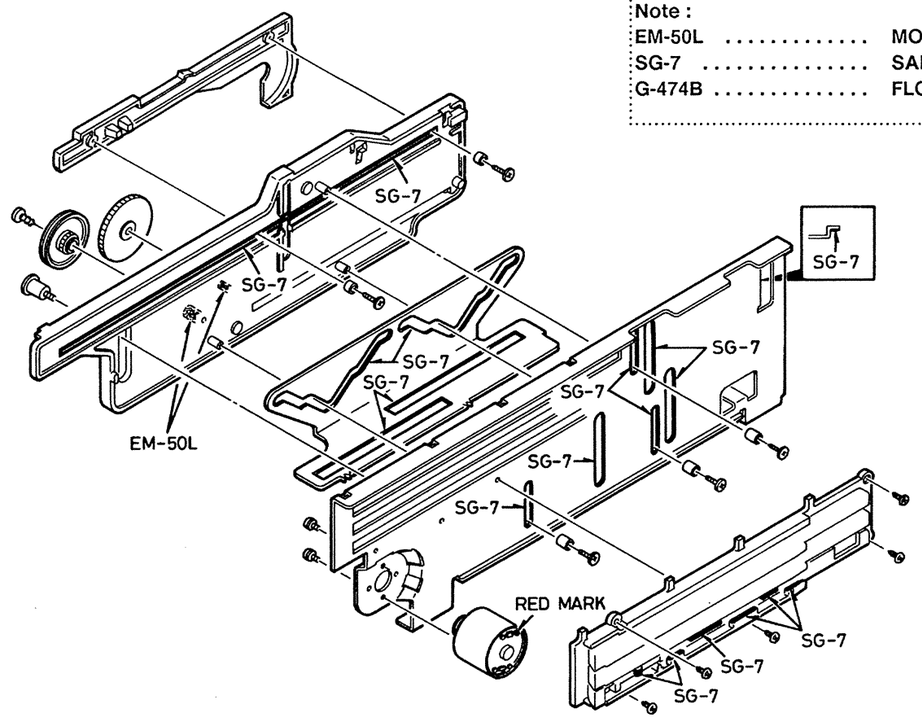




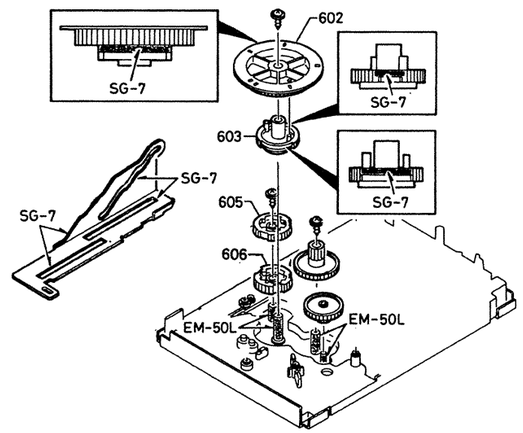
d. LEFT SIDE BRACKET

[ ] OF THE LUBRICATION

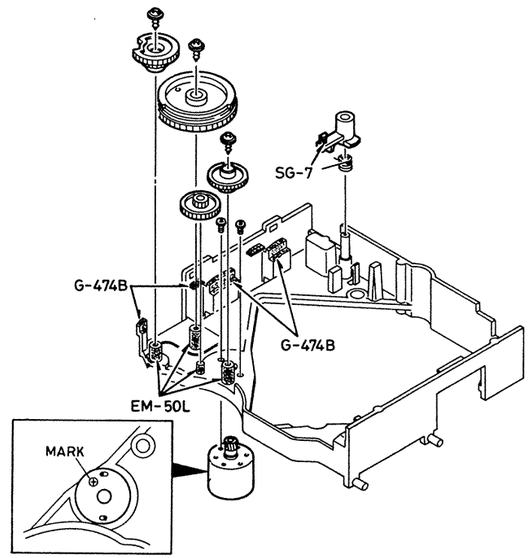
Note :
EM-50L ..... MOLYKOTE, EM-50L
SG-7 ..... SAN GREASE, SG-7
G-474B ..... FLOIL OIL, G-474B



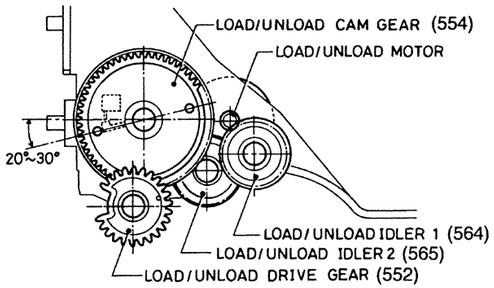
e. UP/DOWN CAM GEAR



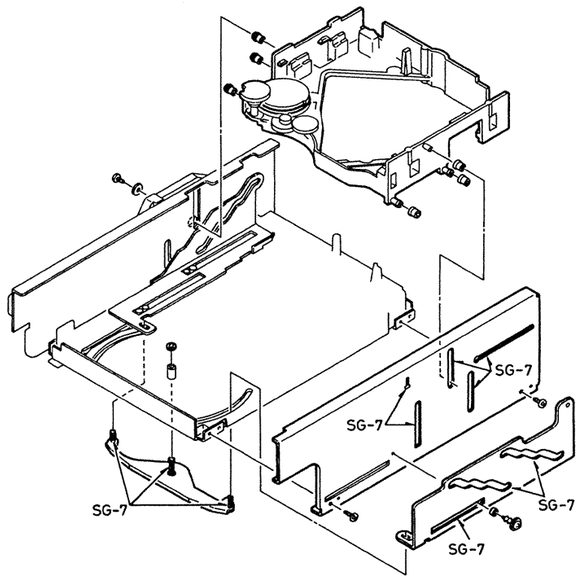
f. LOAD/UNLOAD GEAR



g. SETTING UP THE LOAD/UNLOAD GEAR

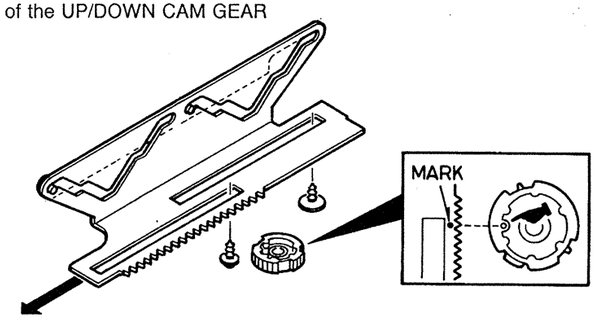


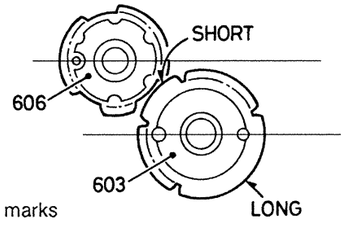
h. TRAY HOLDER



i. SETTING UP THE TRAY SLIDE AND UP/DOWN DRIVE GEAR (603)

(1) Slide the TRAY SLIDE forward until it goes no further.
(2) Align the round mark on the UP/DOWN DRIVE GEAR with the mark area on the TRAY SLIDE, and install.
(3) Align the shorter flat part of the UP/DOWN CAM GEAR (603), and install.

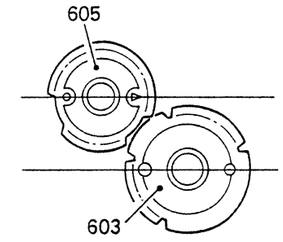




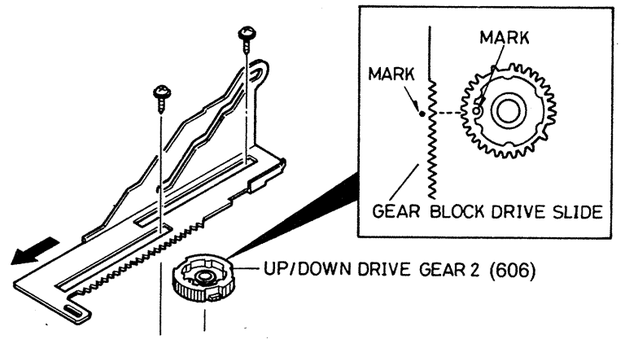
- Set the parts in such a way that the round marks on the two GEARS (606, 603) are horizontal.

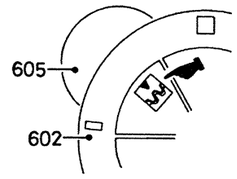
j. SETTING UP THE TRAY HOLDER AND UP/DOWN DRIVE GEAR (605)

(1) Loosen and install the SET SCREW of the SENSOR P.W.B.
(2) Slide the TRAY HOLDER SLIDE forward until it goes no further.
(3) Align the round mark on the UP/DOWN GEAR (605) with the mark area on the TRAY HOLDER SLIDE, and install.
(4) Secure the screw.
(5) As shown in the figure, place the UP/DOWN DRIVE GEAR (603) and UP/DOWN CAM GEAR (605) in such a way that they are horizontal.
(6) Align with the triangular mark through the hole through which the UP/DOWN CAM GEAR teeth are visible.
(7) Secure the SCREW of the SENSOR and GEAR.



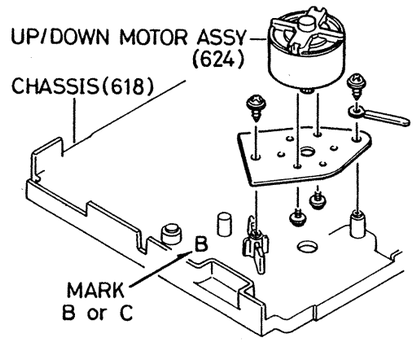
- Set the parts in such a way that the round marks on the two GEARS (606, 603) are horizontal.

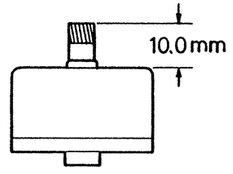
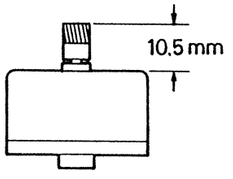




k. TRAY HOLDER SLIDE

There are two types UP/DOWN MOTOR (624) which have been used.
These UP/DOWN MOTOR (624) can be used not interchangeably.
Use the following procedure in accordance with which type of UP/DOWN MOTOR (624) and chassis (618) you will replace.
Please be sure which type of motor you have before serving.



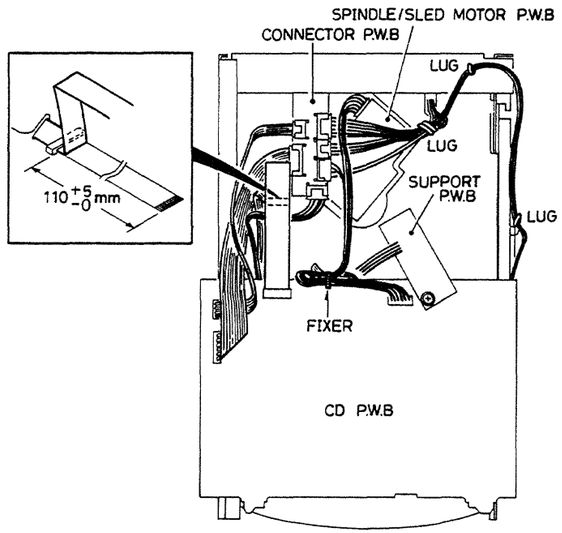
TYPE	1	2
CHASSIS (618) MARK	B	C
UP/DOWN MOTOR ASSY (624)		
(PART No.)	(614 268 2890)	(614 287 0440)

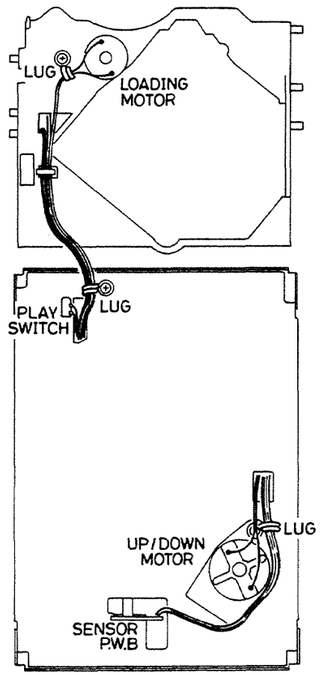
CD MECHANISM ADJUSTMENTS

a. REPLACEMENT AND LUBRICATION OF THE CD MECHANISM

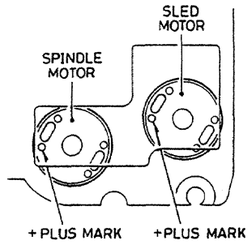
Note :

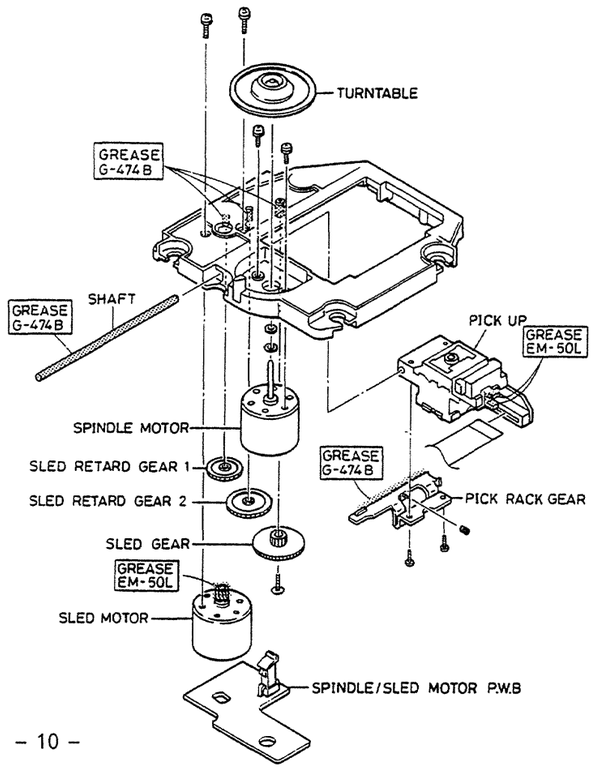
EM-50L	MOLYKOTE, EM-50L
SG-7	SAN GREASE, SG-7
G-474B	FLOIL OIL, G-474B





b. CD BASE MECHANISM





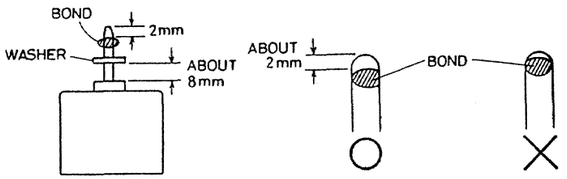
CD MECHANISM ADJUSTMENTS

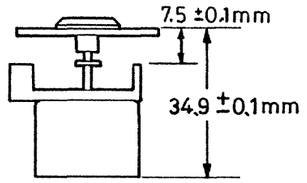
c. CD MECHANISM

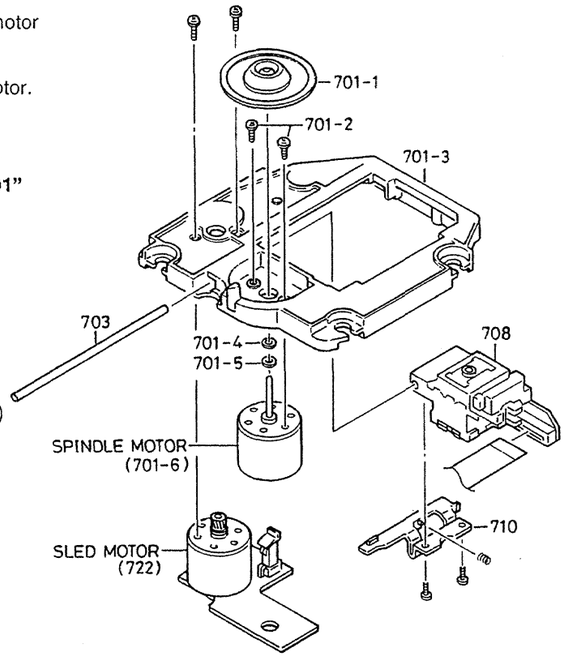
(a) Replacement of the spindle motor

- First, prepare the new turntable (701-1) and new special washer (701-4,701-5) for replacement.
  The removed turntable will be deformed by the heat of the soldering iron, and cannot be reused.
- Prepare dial-type calipers.

(1) The attached bonding material can be dissolved by using a 60W soldering iron to heat the shaft at the upper part of the turntable for about one minute.
(2) The turntable can then be removed from the shaft by very carefully applying force upward at the center of the lower surface of the turntable.
(3) Remove the two screws (701-2) and remove the spindle motor (701-6).
(4) Attach the special washer (701-4, 701-5) to the spindle motor.
(5) Clean the spindle motor's shaft.
To clean them, use a soft cloth soaked in isopropyl alcohol.
(6) Apply a small amount of a mixture of the **"Three Bond 2001"** and **"2015F"** bonding materials to the motor's shaft.
(7) Install the turntable as shown in the figure.
(8) Secure the turntable by pressing gently.
Be sure to wipe away (by using a piece of cloth, or similar material) any bonding material coming out of the hole.

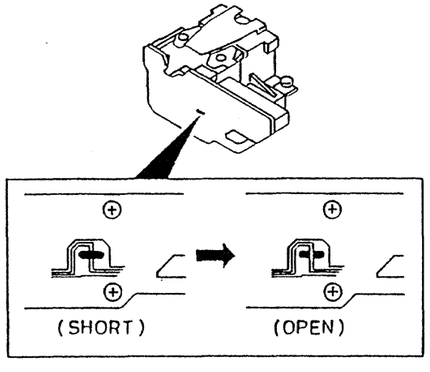




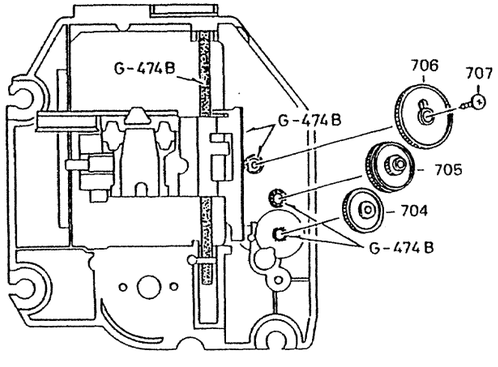


(b) Replacing the pick-up

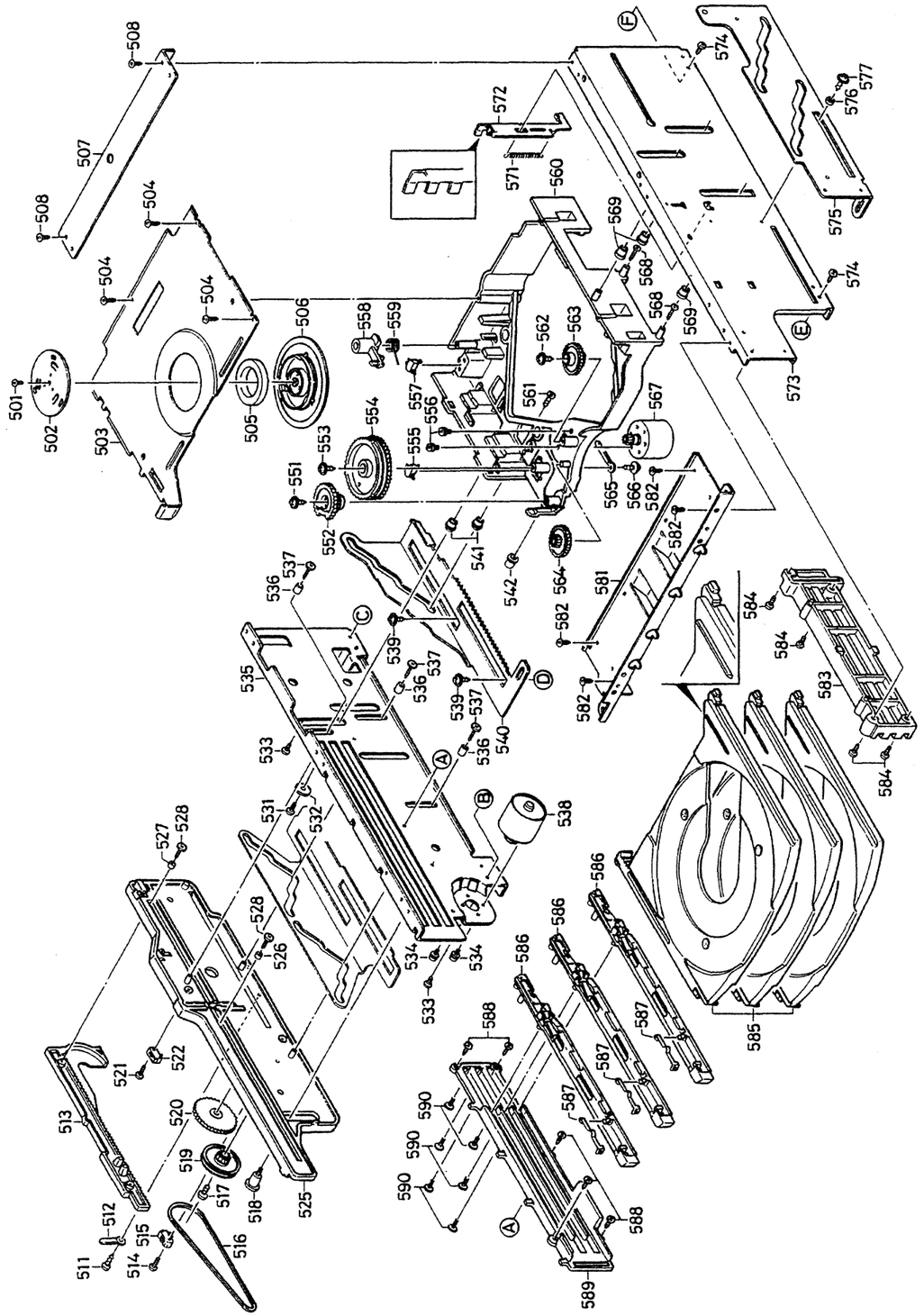
(1) Insert the pick-up rail (703) into the base chassis. (701-3)
(2) If the lach of the base chassis (701-3) are missing when the pick-up rails have been installed, first wipe the tips of the rail with alcohol.
(3) After the pick-up has been replaced, apply grease (**FLOIL G-474B**) to the [ ] sections.
(4) The pick-up P.W.Board pattern is **"shorted"**, as shown in the figure, so that the new pick-up will not be susceptible to the effects of static.
(5) Set the pattern to **"open"** after the pick-up has been replaced.



(BE SURE AT THIS TIME, NOT TO TOUCH ANY OTHER PART.)



EXPLODED VIEW (CD CHANGER MECHANISM)



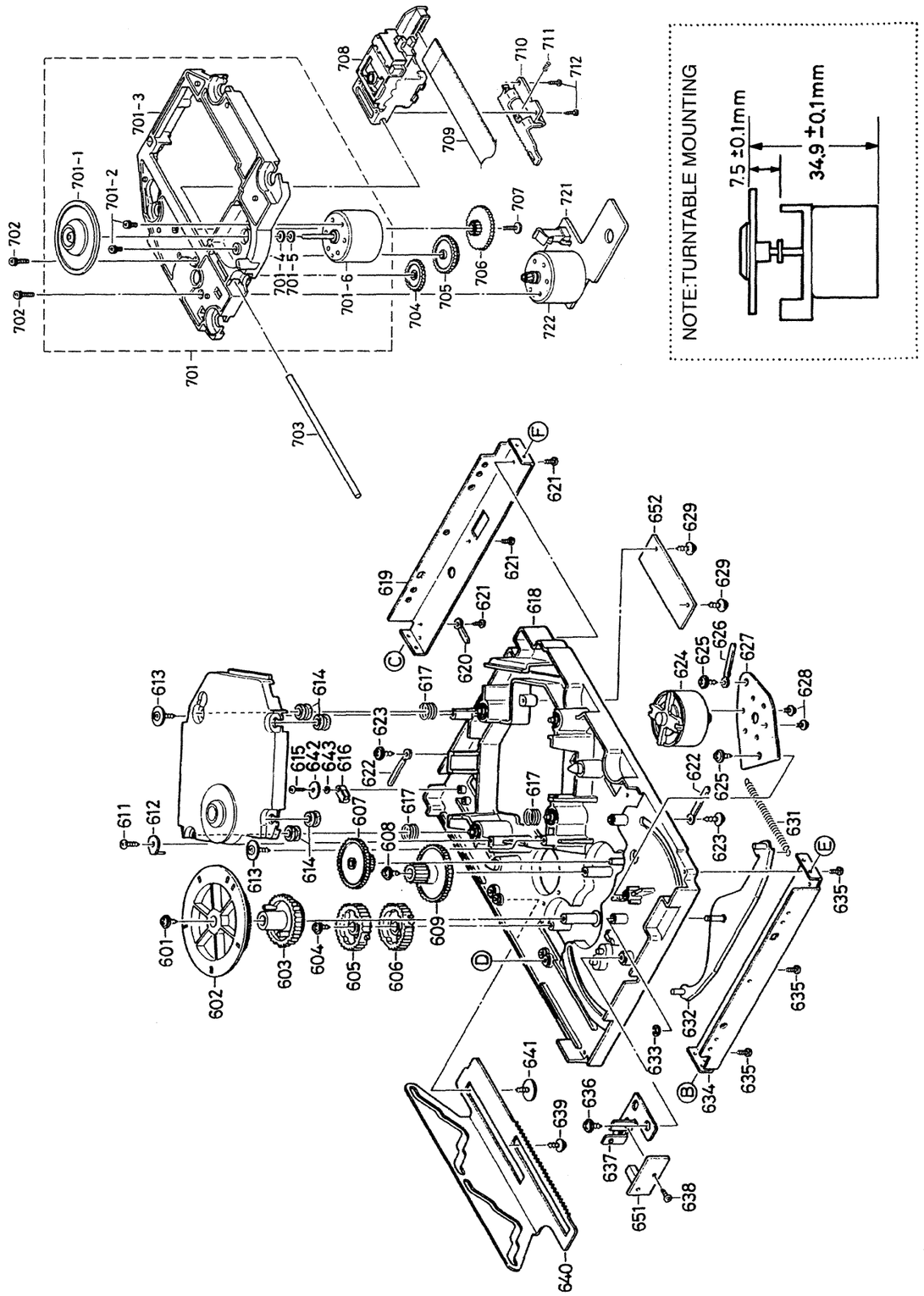
PARTS LIST

CD CHANGER MECHANISM (PM-CD96CHN1/SP)

Ref. No.	Part No.	Description
501	411 022 7500	SCR S-TPG PAN 2X4MM, CHUCK PULLEY FIX
502	614 266 8061	HOLDER,CHUCK PLATE PULLEY
503	614 286 3329	HOLDER,CHUCK BRACKET
504	411 022 7807	SCR S-TPG PAN 2X6MM, CHUCK BRACKET FIX
505	645 009 9809	MAGNET CHUCK,CHUCKING
506	614 272 1674	ASSY,PULLEY,CHUCK
507	614 266 1918	JOINT,B-TOP ENCOURAGER
508	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX
511	411 021 0809	SCR S-TPG BIN 2X6MM,LUG FIX
512	614 129 9341	LUG,OPEN/CLOSE SWITCH LOAD
513	614 266 1833	GEAR,OPEN/CLOSE RACK
514	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX
515	645 010 6491	SWITCH,LEVER,OPEN END
516	614 277 6896	BELT,SQUARE,OPEN/CLOSE
517	411 021 2704	SCR S-TPG BIN 2.6X6MM, PULLEY FIX
518	412 004 5705	SPECIAL SCREW,GEAR BLOCK FIX
519	614 277 7312	PULLEY,OPEN/CLOSE IDLER PULLEY
520	614 266 1826	GEAR,OPEN/CLODE IDLER
521	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX
522	645 010 6491	SWITCH,LEVER,CLOSE END
525	614 266 1970	MOUNTING,GEAR BLOCK BRACKET
526	614 273 5992	PIPE,GEAR RACK GUIDE(F)
527	614 270 2222	PIPE,GEAR RACK GUIDE(R)
528	412 054 6202	SPECIAL SCREW,2X7.5MM, GEAR RACK FIX
531	411 022 7807	SCR S-TPG PAN 2X6MM, TRAY HOLDER
532	411 091 9702	WASHER V 2X8X0.5MM
533	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX
534	411 044 7007	SCR PAN+SW 2X3MM, OPEN/CLOSE MOTOR FIX
535	614 266 1949	MOUNTING,LEFT SIDE BRACKET
536	614 268 0476	PIPE,OPEN/CLOSE BRAKET GUIDE
537	412 054 6202	SPECIAL SCREW,2X7.5MM, MOUNTING FIX
538	645 009 1186	ASSY,MOTOR,OPEN/COLSE
539	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,SLIDE FIX
540	614 266 1994	SLIDE,TRAY HOLDER
541	614 277 9460	PIPE,TRAY HOLDER GUIDE
542	614 268 0469	PIPE,TRAY HOLDER GUIDE (R)
551	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
552	614 266 1819	GEAR,LOAD/UNLOAD DRIVE
553	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
554	614 266 1802	GEAR,LOAD/UNLOAD CAM
555	645 012 5904	SWITCH,UNLOAD END
556	411 044 7205	SCR PAN+SW 2X4MM, LOAD/UNLOAD MTR FIX
557	645 012 5904	SWITCH,LOAD END
558	614 266 1932	LEVER,LOCK
559	614 268 0186	SPRING,WIRE, LOAD/UN-LOAD LOCK LEVER
560	614 266 1963	MOUNTING,TRAY HOLDER
561	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER

Ref. No.	Part No.	Description
562	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
563	614 266 8030	GEAR,LOAD/UNLOAD IDLER1
564	614 266 1796	GEAR,LOAD/UNLOAD IDLER2
565	614 129 9136	LUG,LEAD MTG.
566	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX
567	645 009 1193	ASSY,MOTOR,LOAD/UNLOAD
568	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER
569	614 268 0469	PIPE,TRAY HOLDER GUIDE
571	614 268 0162	SPRING,TENSION,STOPPER PULL
572	614 279 0595	STOPPER,DISC STOPPER
573	614 266 1956	MOUNTING,RIGHT SIDE BRAKET
574	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX
575	614 268 2906	ASSY,SLIDE,RIGHT
576	614 270 2239	PIPE,RIGHT SLIDE GUIDE
577	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, RIGHT SLIDE FIX
581	614 279 5309	JOINT,F-TOP ENCOURAGER
582	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX
583	614 286 3343	HOLDER,RIGHT,TRAY GUIDE
584	411 028 3100	SCR S-TPG PAN 2X6MM, HOLDER FIX
585	614 286 3312	ASSY,TRAY
586	614 286 3541	ASSY,HOLDER
587	614 266 8924	SPRING,PLATE,TRAY HOLD
588	411 028 2905	SCR S-TPG PAN 2X4MM, HOLDER FIX
589	614 286 3336	HOLDER,LEFT,TRAY GUIDE
590	412 055 5303	SPECIAL SCREW 2X5MM, HOLDER FIX
601	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
602	614 266 1758	GEAR,UP/DOWN CAM (1)
603	614 266 1765	GEAR,UP/DOWN CAM (2)
604	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
605	614 266 1772	GEAR,UP/DOWN DRIVE (1)
606	614 266 1789	GEAR,UP/DOWN DRIVE (2)
607	614 266 1734	GEAR,UP/DOWN IDLER 1
608	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
609	614 266 1741	GEAR,UP/DOWN IDLER 2
611	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM,HOLDER FIX
612	614 267 6998	HOLDER,BASE MECHANISM FIX
613	614 279 1202	SPECIAL SCREW,BLACK, BASE MECHANISM FIX
614	614 237 7031	CUSHION,RUBBER,FLOATING
or	614 277 1952	CUSHION,RUBBER,FLOATING
615	411 132 4703	SCR S-TPG BIN 2X10MM, PLAY SW FIX
616	645 010 6491	SWITCH,LEVER,PLAY
617	614 247 4907	SPRING,COMP,FLOATING
618	614 266 1727	CHASSIS,BOTTOM CHASSIS
619	614 266 1888	JOINT,BOTTOM BACK
620	614 129 9341	LUG,OPEN/CLOSE SWITCH LEAD
621	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
622	614 129 9136	LUG,LOAD/UN-LOAD SWITCH LEAD
623	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX

EXPLODED VIEW (CD CHANGER & BASE MECHANISM)



PARTS LIST

Ref. No.	Part No.	Description
624	614 268 2890	ASSY,MOTOR,UP/DOWN CHASSIS MARK "B" (A PAIR USE)
624	614 287 0440	ASSY,MOTOR,UP/DOWN CHASSIS MARK "C" (A PAIR USE)
625	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, BRACKET MOTOR FIX
626	614 129 9136	LUG,SENSOR LEAD
627	614 266 8054	HOLDER,BRACKET MOTOR
628	411 102 6300	SCR PAN-FLG 2.6X2.8MM, UP/DOUN MOTOR FIX
629	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,CHUKEI PWB FIX
631	614 268 0155	SPRING,TENSION, SYNCRO LEVER PULL
632	614 268 2883	ASSY,LEVER,SYNCRO
633	412 014 6402	SPECIAL WASHER, LEVER ASSY FIX
634	614 272 6600	JOINT,BOTTOM FRONT
635	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
636	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, SENSOR BK FIX
637	614 266 9907	HOLDER,SENSOR BRACKET
638	411 028 2905	SCR S-TPG PAN 2X4MM, SENSOR PWB FIX
639	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, SLIDE FIX
640	614 266 2007	SLIDE,TRAY SLISE
641	412 005 2307	SPECIAL SCREW,3X10MM (WITH WASHER 3X14X1MM)
642	614 126 8774	WASHER,FIBER 2X10X1MM PLASY SWITCH
643	412 012 7104	SPECIAL WASHER,GF NYLON 2.1X4X0.5MM
	614 269 6026	ASSY,WIRE,5P,SENSOR, UP/DOWN MOTOR
	614 269 6033	ASSY,WIRE,6P, LOAD/UNLOAD/PLAY SWITCH
	614 269 6040	ASSY,WIRE,4P, LOAD/UNLOAD,UP/DOWN MOTOR
	614 269 6057	ASSY,WIRE,4P, OPEN/CLOSE SWITCH

CD SENSOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
651	614 270 1928	ASSY,PWB,SENSOR
D191	407 177 6109	PHOTO COUPLE GP1A53E

CD CONNECTOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
652	614 267 6646	ASSY,PWB CD,CONNECTOR, CHANGER
CN191	645 006 0915	PLUG,4P,LOAD/UNLOAD SWITCH
or	645 009 6440	PLUG,4P,LOAD/UNLOAD SWITCH

Ref. No.	Part No.	Description
CN192	645 004 2706	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR
or	645 014 9825	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR
CN193	645 006 0939	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
or	645 009 6464	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
CN194	645 006 0922	PLUG,5P,SENSOR,UP/DOWN MOTOR
or	645 009 6457	PLUG,5P,SENSOR,UP/DOWN MOTOR
CN195	645 006 0915	PLUG,4P,CD,PWB
or	645 009 6440	PLUG,4P,CD,PWB
CN196	645 006 0953	PLUG,8P,CD,PWB
or	645 009 6488	PLUG,8P,CD,PWB

CD BASE MECHANISM (PM-CDBM94D3SP)

Ref. No.	Part No.	Description
701	614 270 2031	ASSY,CHASSIS,BASE MECHANISM
701-1	614 268 3354	ASSY,TURNTABLE,SPINDLE
701-2	411 044 7502	SCR PAN+SW 2X5MM, SPINDLE MOTOR FIX
701-3	614 262 2582	CHASSIS,BASE MECHANISM
701-4	412 032 0208	SPECIAL WASHER,1.9X5X0.3MM
701-5	412 014 5603	SPECIAL WASHER,TURNTABLE STOPPER
701-6	645 007 7821	MOTOR,CD-SPINDLE DC 0.2W, SPINDLE MOTOR
702	411 044 8004	SCR PAN+SW 2X8MM, SLED MOTOR FIX
703	614 237 7024	SHAFT,PICK-UP RAIL
or	614 277 8029	SHAFT,PICK-UP RAIL
704	614 237 7093	GEAR,SLED RETARD GEAR 1
705	614 237 7109	GEAR,SLED RETARD GEAR 2
706	614 237 7116	GEAR,SLED
707	412 054 6202	SPECIAL SCREW 2X8MM, SLED GEAR FIX
708	645 006 7983	PICKUP,LASER,SF-P100
709	645 009 9960	FLEXIBLE FLAT CABLE,13P, PICK-UP
710	614 262 2599	GEAR,RACK PICK-UP RACK GEAR
711	614 238 6934	SPRING,COMP,PICK-UP RACK GEAR
712	411 152 4301	SCR S-TPG PAN PCS 1.7X6MM, PICK RACK GEAR FIX
722	645 007 7814	ASSY,MOTOR CD-SLED
	614 279 3329	ASSY,CONNECTOR-S,6P, BASE MECHANISM

BASE MECHANISM P.W.BOARD ASSY

Ref. No.	Part No.	Description
721	614 251 6485	ASSY,PWB,MOTOR & LIMIT SWITCH
CN001	645 006 0939	PLUG,6P
or	645 009 6464	PLUG,6P
S001	645 012 5836	SWITCH,LEAF,LIMIT SWITCH
or	645 019 2661	SWITCH,LEAF,LIMIT SWITCH

Jul./'96/2700 KM Printed in Japan.

SANYO

SANYO Electric Co., Ltd.
Osaka, Japan

Notice

SANYO

[v] CORRECTION [ ] PRODUCTION CHANGE

[ ] SERVICE FLASH [ ] ADD INFORMATION

[ ] [ ]

FILE NO.

Please add this notice to the Service Manual listed below.

Category : **Mini Component System** Date : Oct. 1996

Model : **DC-F280/DC-F280U**

Destination : XE/UK Reference No. : SM580676 Issue Number : 2

The reason of change.
A : Misprint B : Quality Reliabilities C : Standardization
D : Design E : F :
G :

Page & Section	Ref. No.		Part No.	Description	Q'ty	Interchange-ability	Reason
P22 PARTS LIST	62	Old	614 017 2731	TRANSFORMER,POWER	1		A
	62	New	645 017 2731	TRANSFORMER,POWER	1		

Prod. Cord : 129 487 05 (XE)
129 488 04 (UK)

SANYO Electric Co., Ltd.
Osaka, Japan

Oct./'96/2700 KM Printed in Japan. REFERENCE No. SM580676-02

Notice

SANYO

☐	CORRECTION	☐	PRODUCTION CHANGE
☐	SERVICE FLASH	V	ADD INFORMATION
☐		☐	

FILE NO.

Please add this notice to the Service Manual listed below.

Category : Mini Component System **Date :** Feb. 1997

Model : DC-F280U

Destination : UK **Reference No. :** SM580676 **Issue Number :** 3

The reason of change.

A : Misprint B : Quality Reliabilities C : Standardization

D : Design E : F :

G :

Product Code : 129 488 04

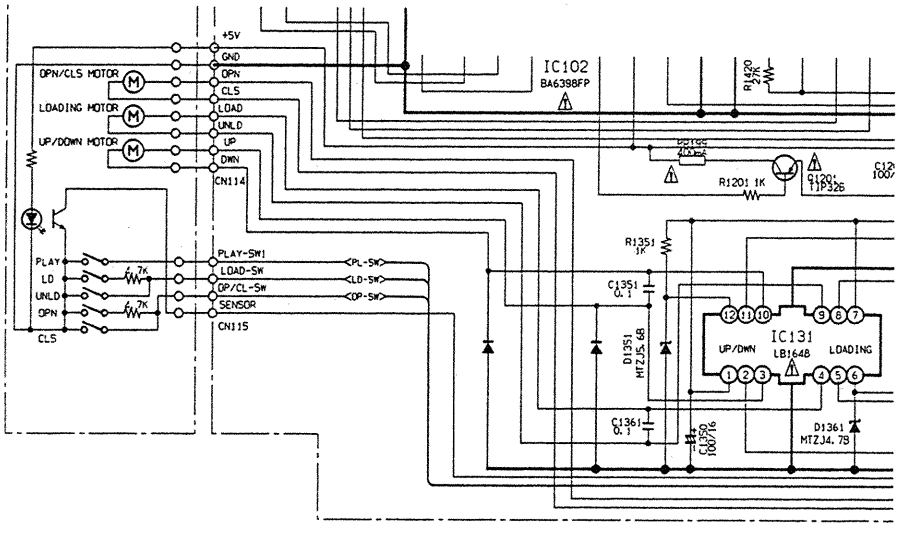
In some units (Serial No. 36707051E - 37124350E), two diodes (SB10-03A or RB100A) have been added to IC131 (Pins 3 and 10) in the CD P.W.Board assembly.

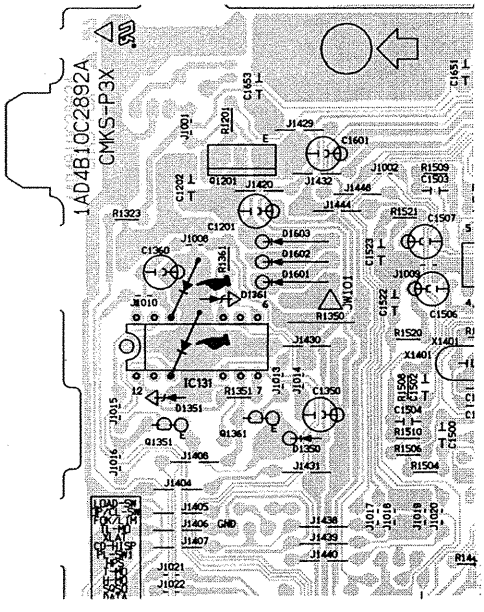
They are designed to improve the performance of the IC131 LB1648 (motor driver) which has been found to vary.

These diodes have not been added in the units containing the IC131 whose performance is stable.

Refer to this notice when proceeding to replace the diodes for those units in which these diodes have been added.

Page & Section	Ref. No.		Part No.	Description	Q'ty	Reason
PARTS LIST		Old				
P25		New	407 080 4209	DIODE, SB10-03A	(2)	B
	or	New	407 175 0604	DIODE, RB100A	(2)	B





Note : The Reference No. **SM580676-03** is for **UK** use only.

Feb. / '97/ 1000 KM Printed in Japan.

SANYO Electric Co., Ltd
Osaka, Japan

REFERENCE No. SM580676-03

SPECIFICATIONS

Note: The below mentioned specifications are mainly based on the IHF measurements standard.
They can therefore not directly be compared with specifications based on the DIN standard or other standards.

TUNER SECTION

Frequency range	FM : 87.5 - 108.0 MHz
	MW : 522 - 1,611 kHz
	LW : 144 - 288 kHz

CASSETTE DECK SECTION

Track system	4 track, 2-channel stereo
Frequency response ..	50 Hz - 15,000 Hz (CrO2 type)
	50 Hz - 14,000 Hz (Normal type)
Signal to noise ratio ..	60 dB (Dolby NR ON)
Wow & Flutter	0.12 % (WRMS)
Tape speed	4.75 cm/sec
Fast forward and rewind time	Approx. 110 sec. (C-60)

CD PLAYER SECTION

Type	Changer, 3-disc
Channels	2-channel stereo
Sampling frequency ..	44.1 kHz
Pick-up	Optical 3-beam semiconductor laser
Laser output	0.6 mW (Continuous wave max.)
Wave length	790 nm
Frequency response ..	20 Hz - 20,000 Hz
Wow & Flutter	Below measurable limits

AMPLIFIER SECTION

Output power	40 W x 2 (at 6 ohms, 10% distortion)
Sound preset	Four electronic presets
Inputs (VIDEO/PHONO)	400 mV (50k ohms),
	2.5 mV (50k ohms)
Outputs	SPEAKER : 6 ohms
	SURROUND SPEAKER : 16 ohms
	PHONES : 8 - 32 ohms

GENERAL

Power requirements ..	AC : 230 V, 50 Hz
Power consumption ..	115 W
Dimensions (WxHxD) .	Approx. 270 x 333 x 302 mm
Weight	Approx. 8.7 kg

SPEAKER SYSTEMS (only DC-F280/XE)

Type	3 way bass reflex
Unit used	Woofer: 13 cm cone type
	Mid range : 5 cm cone type
	Tweeter : piezoelectric
Maximum power-handling capacity	80 W (peak)
Nominal impedance ..	6 ohms
Dimensions (WxHxD) .	Approx. 180 x 330 x 245 mm
Weight	Approx. 3.3 kg (per speaker)

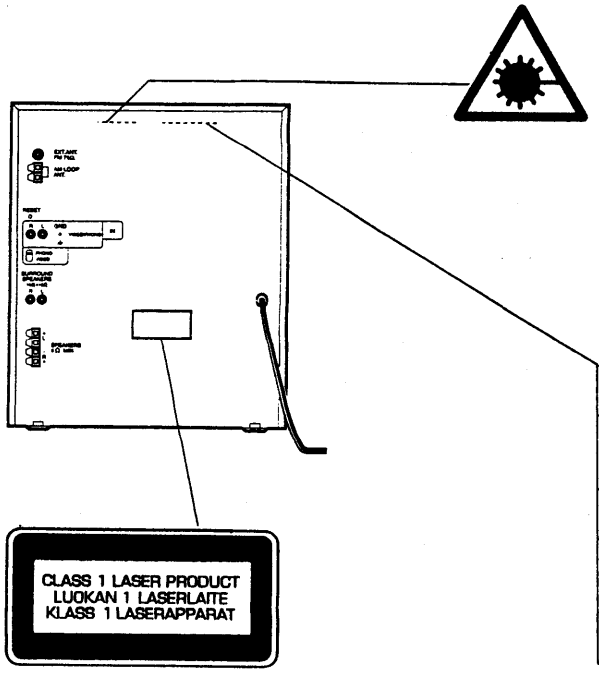
Specifications subject to change without notice.

LASER BEAM SAFETY PRECAUTIONS

- Pick-up that emits a laser beam is used in this CD player.

CAUTION :
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE

LASER OUTPUT ..... 0.6 mW Max. (CW)
WAVELENGTH ..... 790 nm

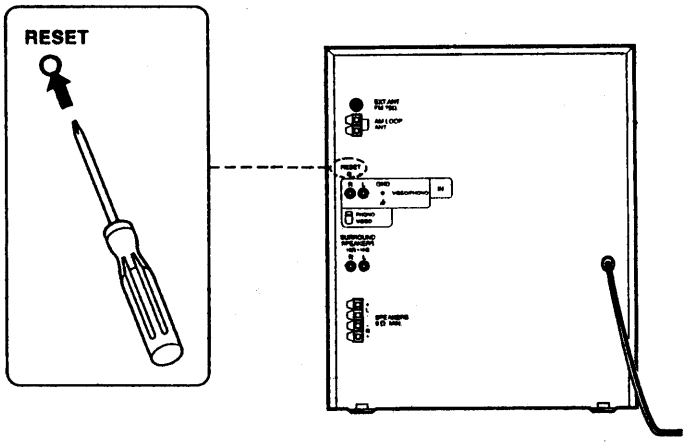


CAUTION – INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL – USYNLIG LASER STRÅLING VED ÅBNING, NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION, UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARNING – OSYNLIG LASER STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.
VORSICHT – UNSICHTBARE LASERSTRAHLUNG TRITT AUS, WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT, DEM STRAHL AUSSETZEN.
VARO – AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.

WHAT TO DO IF

If the operation of the unit or display is not normal, or you wish to clear the contents of the memory.

1. Disconnect the power cord's plug from the electrical outlet.
2. Press the **RESET** button for at least **20** seconds.
3. Connect the power cord.
4. Press the **POWER** button to turn the power on.



REMOVAL AND INSTALLATION

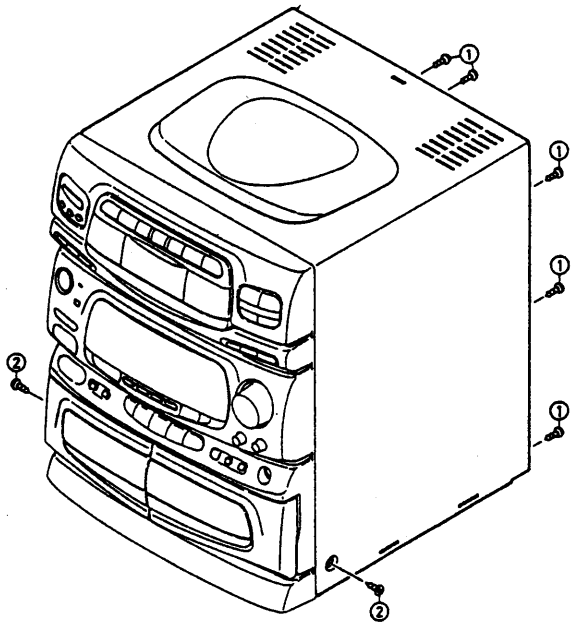
- Disconnect the power cord's plug from the electrical outlet.
- All wiring should be returned to the original position after work is completed.
- First have ready many the new FIXERS (614 129 2496) for replacement.
- Arrange the lead wires so that they are not near the heat sink.

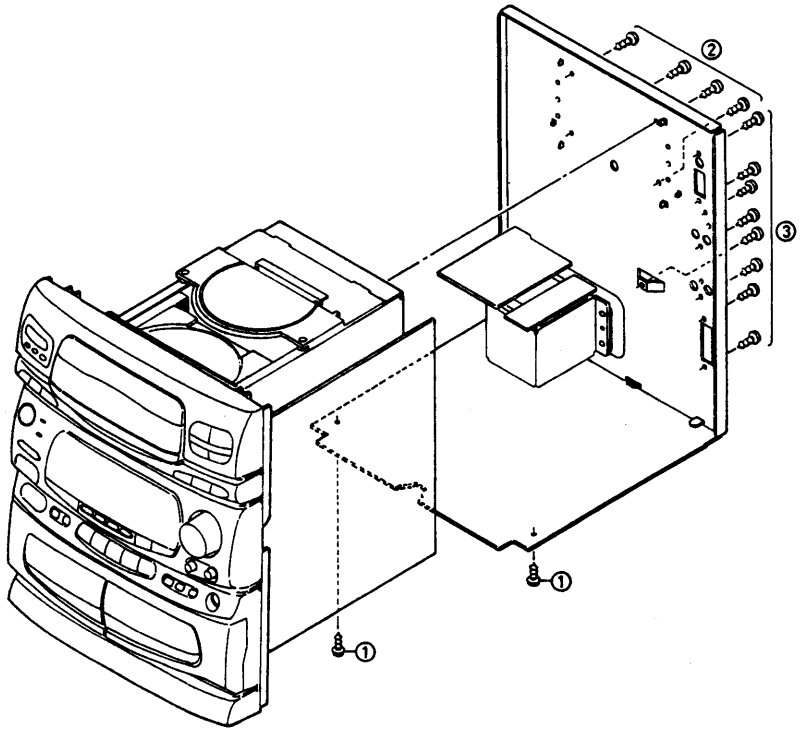
a. CABINET

(1) Remove the 5 rear panel mounting screws. (①)
(2) Remove the 2 cabinet mounting screws. (②)

b. REAR PANEL

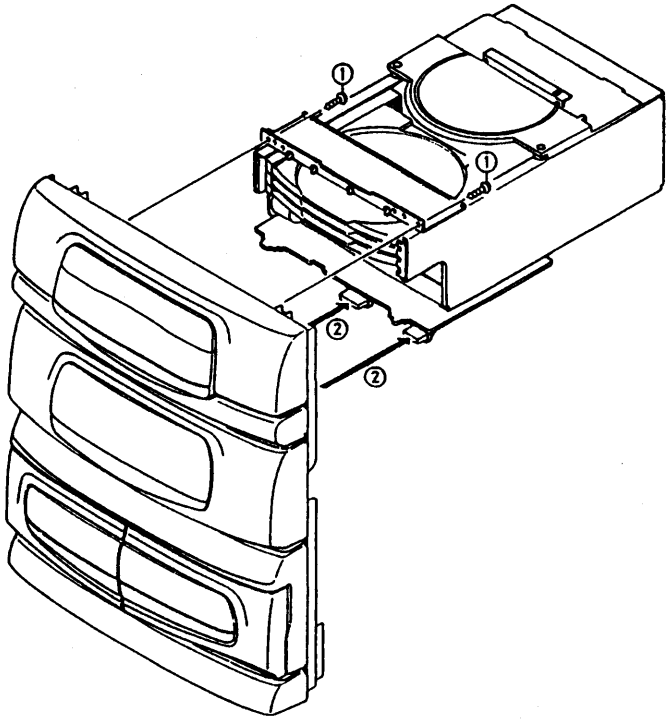
(1) Remove the 2 bottom cabinet mounting screws. (①)
(2) Remove the 4 rear cabinet mounting screws. (②)
(3) Removal the EXT. ANT., VIDEO socket & SPEAKER terminal mounting screws.(③)





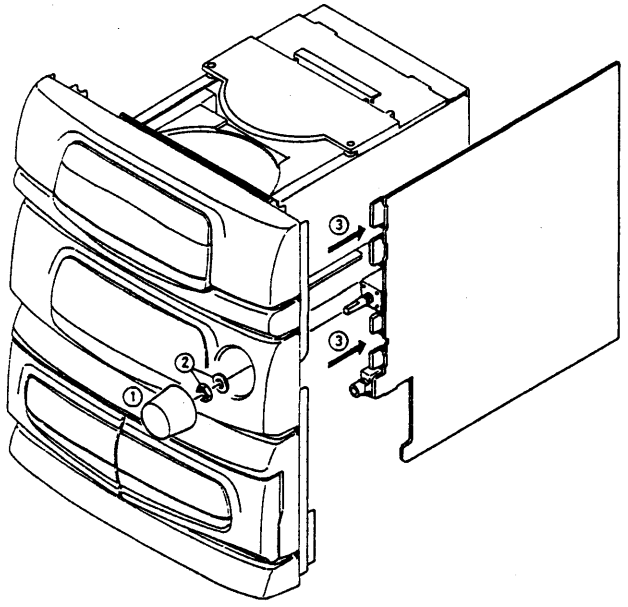
c. CD MECHANISM BLOCK

(1) Removal the CD mechanism mounting screws. (①)
(2) Removal the CD P.W.Board. (②)



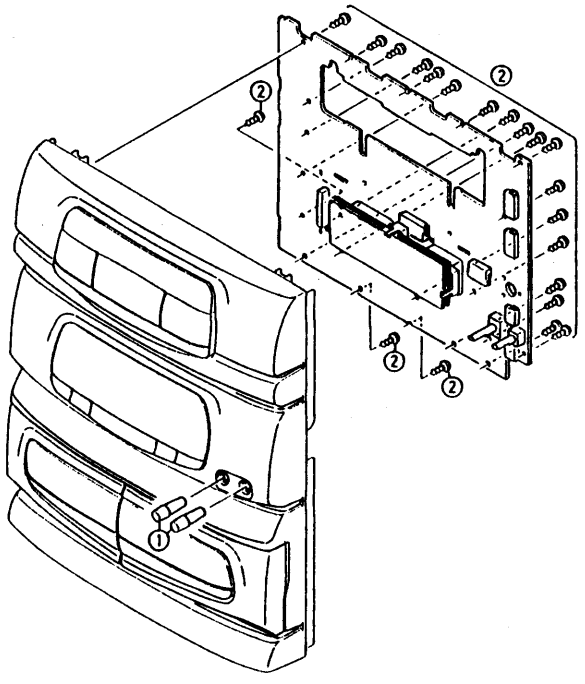
d. TUNER/AMP./TAPE DECK P.W.BOARD

(1) Removal the VOLUME knob. (①)
(2) Removal the VOLUME mounting nut and washer. (②)
(3) Removal the TUNER/AMP.,/TAPE DECK P.W.Board. (③)



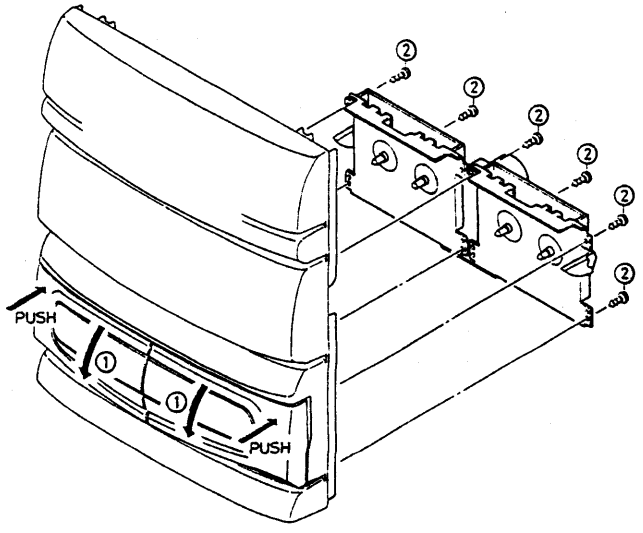
e. FRONT P.W.BOARD

(1) Removal the BALANCE and SPECTRUM knobs. (①)
(2) Removal the FRONT P.W.Board mounting screws. (②)

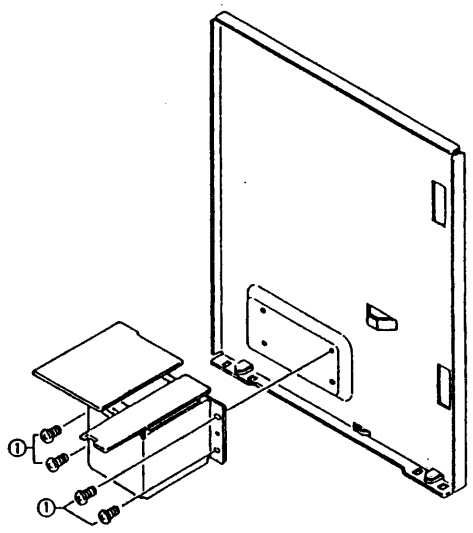


f. TAPE MECHANISM

(1) Push the cassette Lid.
(2) Open the cassette compartment lids. (①)
(3) Removal the tape mechanism mounting screws. (②)



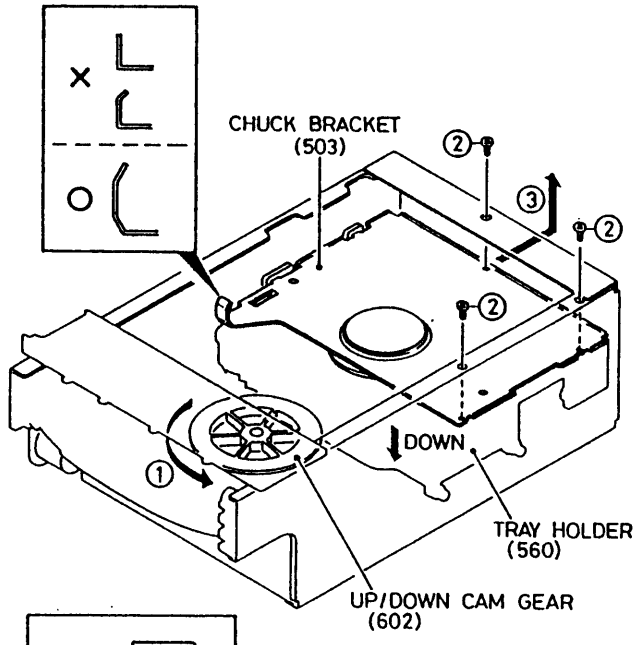
g. POWER TRANSFORMER



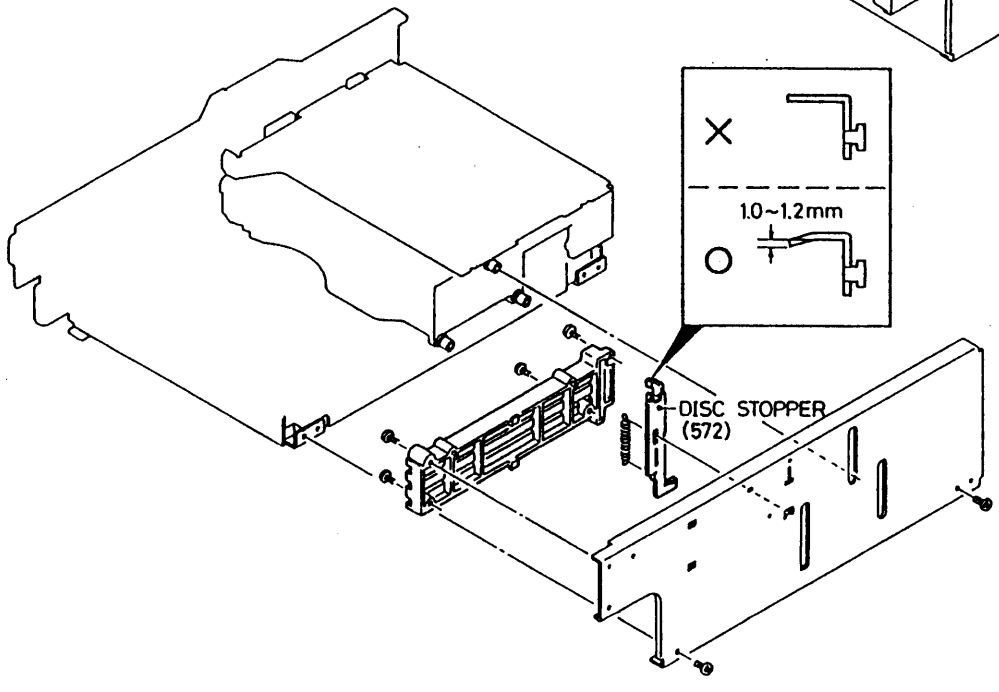
h. CD CHANGER MECHANISM

(a) CHUCK BRACKET (503)

(1) Rotate the UP/DOWN CAM GEAR (602). (①)
(2) Remove the 3 CD changer mechanism mounting screws. (②)
(3) Remove the chuck bracket. (③)



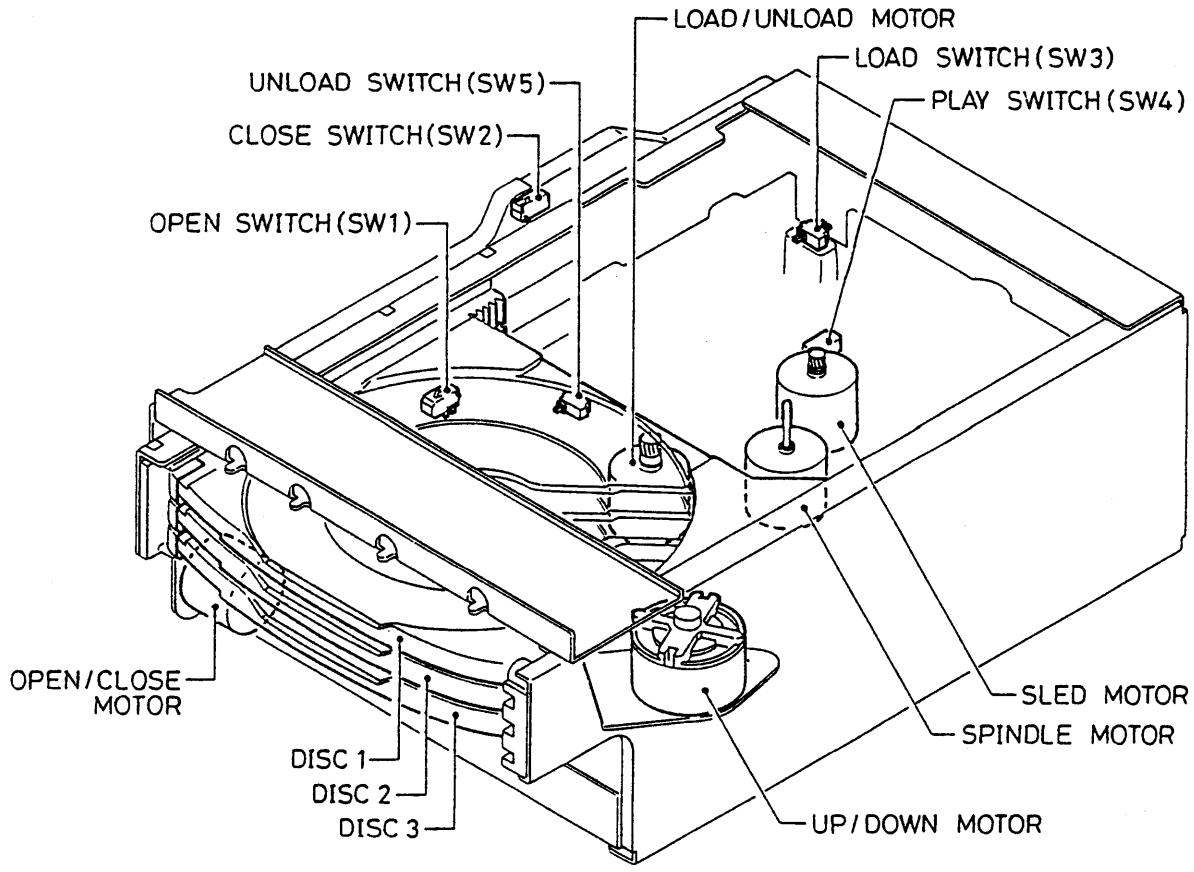
(b) DISC STOPPER (572)

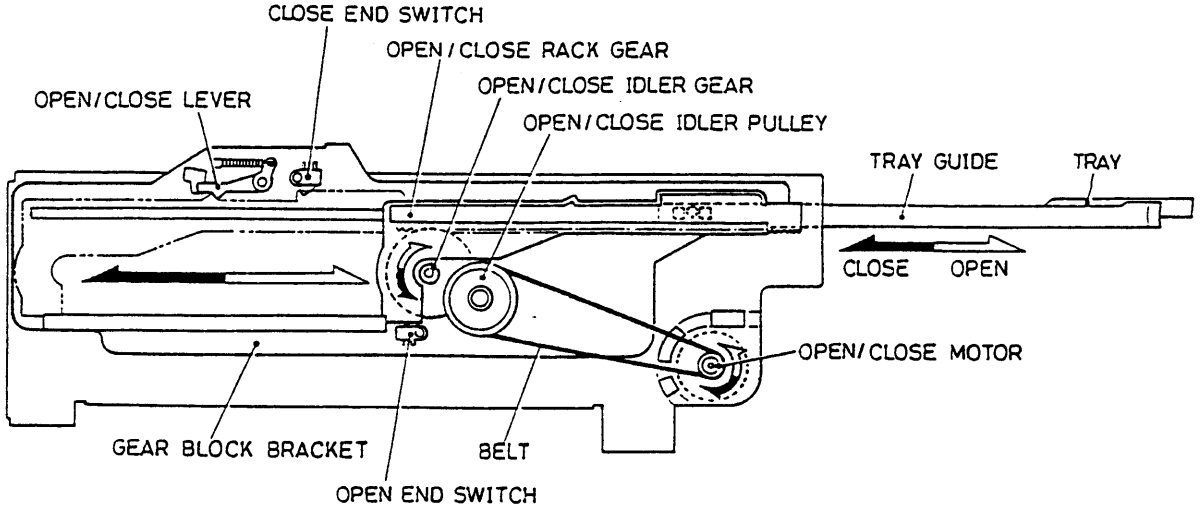


CD CHANGER OPERATION DESCRIPTION

- This set is capable of stocking and playing up to 3 CDs.
- While playing a CD, other discs can be replaced.
  In this case, press the button for the disc No. you wish to remove, and then press the OPEN/CLOSE button.
- When the "POWER" button is turned off, the power turns off after the discs are loaded in the disc trays.

a. MOTOR & MECHANISM SWITCHES LAYOUT



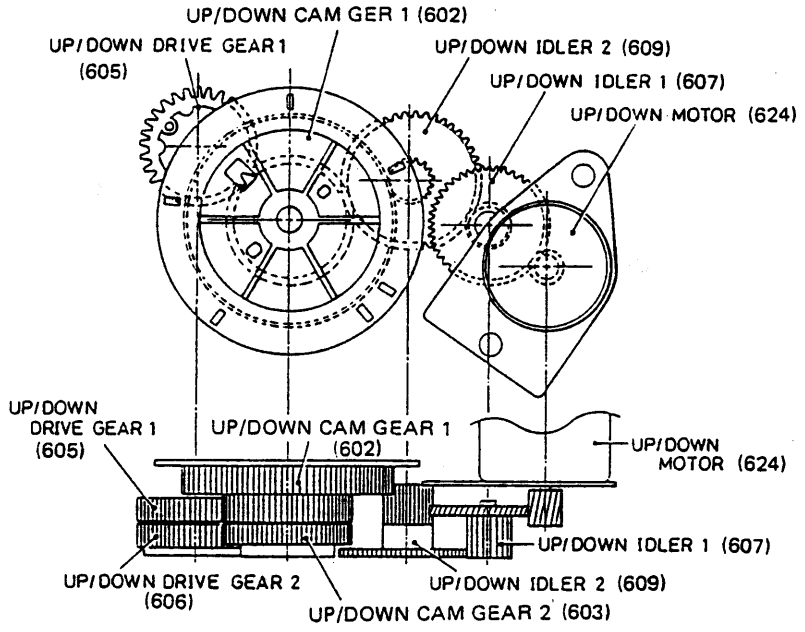


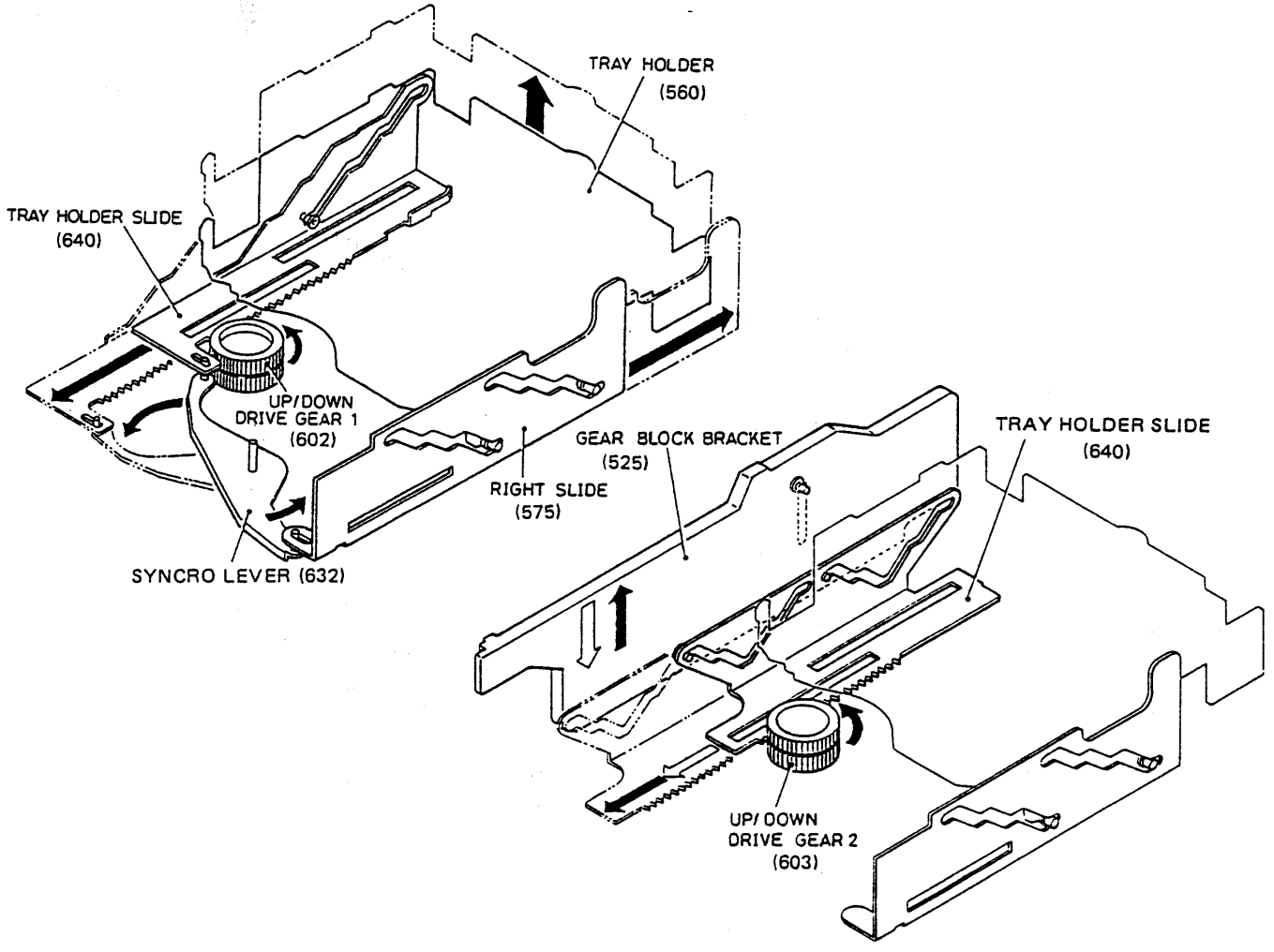
CD CHANGER OPERATION DESCRIPTION

b. UP/DOWN FUNCTION (DURING "UP")

(1) The rotation of the UP/DOWN MOTOR (624) rotates the UP/DOWN DRIVE GEAR (605) in the counter-clockwise direction.

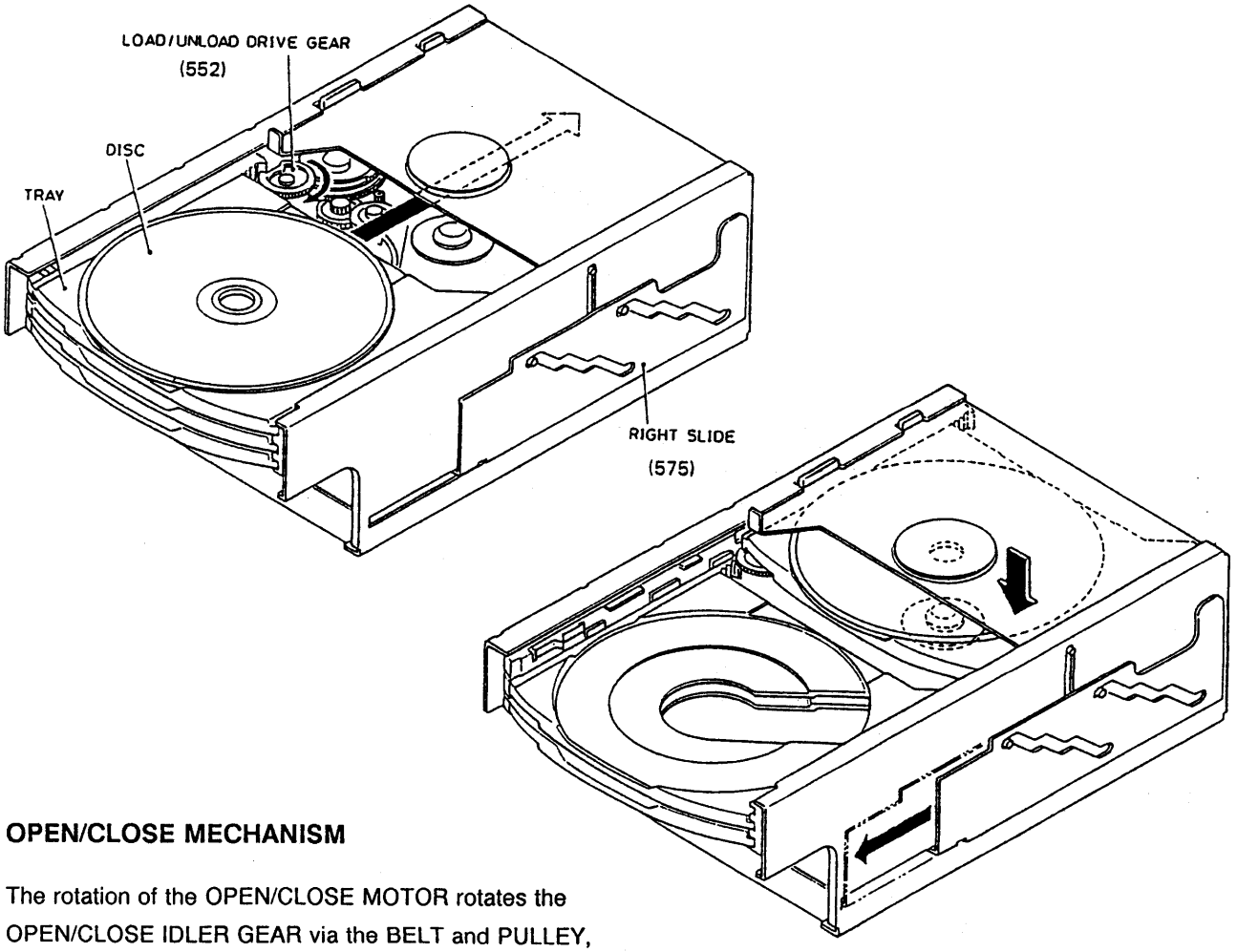
(2) In connection with this, the TRAY HOLDER SLIDE (640) moves forward, and at the same time, the RIGHT SLIDE (575) is moved backwards by the SYNCRO LEVER (632).


UP/DOWN CAM GER 1 (602)
UP/DOWN DRIVE GEAR1 (605)
UP/DOWN IDLER 2 (609)
UP/DOWN IDLER 1 (607)
UP/DOWN MOTOR (624)
UP/DOWN DRIVE GEAR 1 (605)
UP/DOWN CAM GEAR 1 (602)
UP/DOWN MOTOR (624)
UP/DOWN IDLER 1 (607)
UP/DOWN DRIVE GEAR 2 (606)
UP/DOWN IDLER 2 (609)
UP/DOWN CAM GEAR 2 (603)



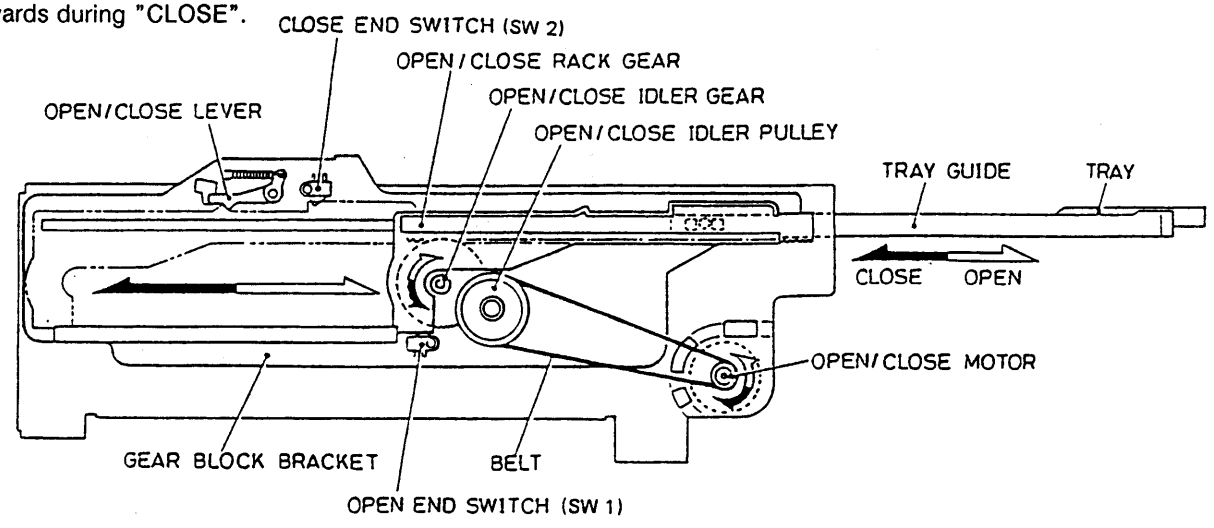
c. LOAD/UNLOAD FUNCTION

(1) The rotation of the LOAD/UNLOAD MOTOR rotates the LOAD/UNLOAD DRIVE GEAR (552) in the clockwise direction.
(2) The DRIVE GEAR and the gear portion of the TRAY mesh together and the TRAY moves backwards.
(3) The completion of TRAY movement causes the UP/DOWN MOTOR to operate and lower the TRAY HOLDER, putting the unit to chucking stayus.



d. OPEN/CLOSE MECHANISM

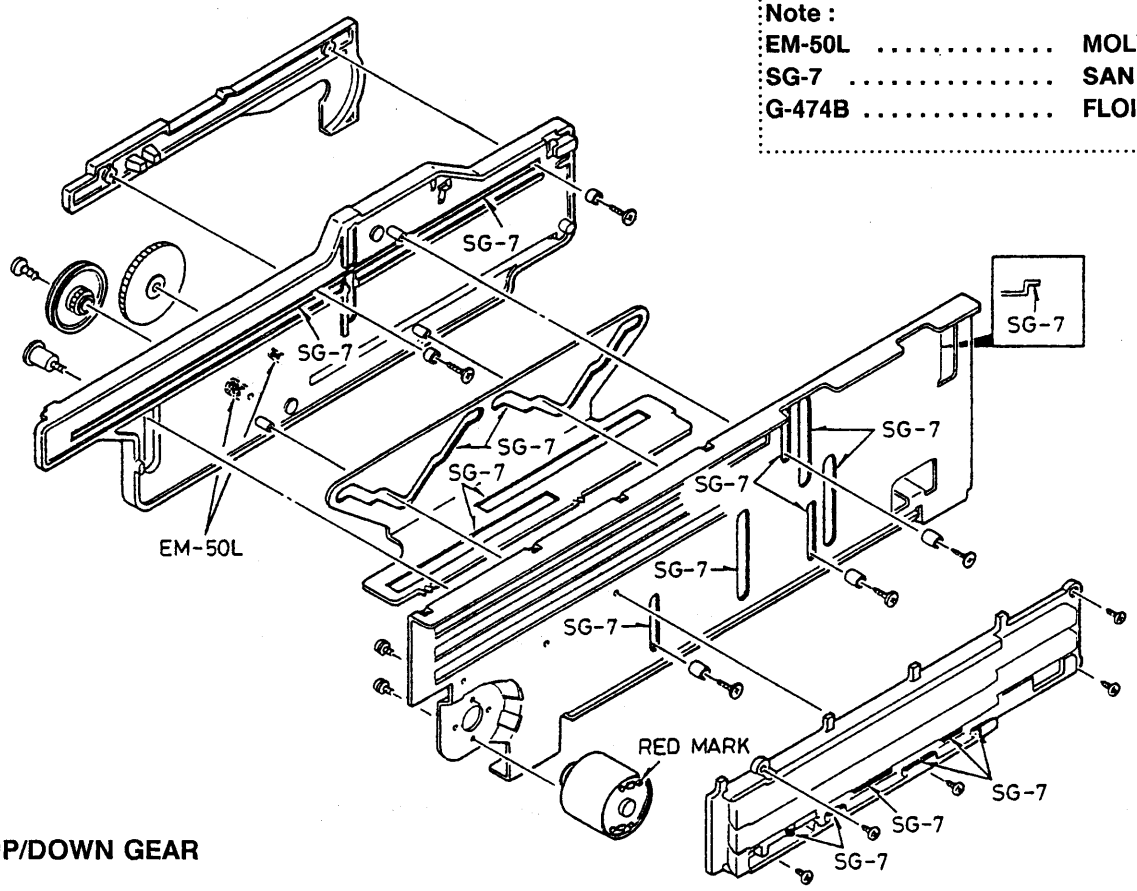
(1) The rotation of the OPEN/CLOSE MOTOR rotates the OPEN/CLOSE IDLER GEAR via the BELT and PULLEY, and the RACK GEAR whitch is intermeshed with the OPEN/CLOSE IDLER GEAR moves forward during "OPEN", backwards during "CLOSE".



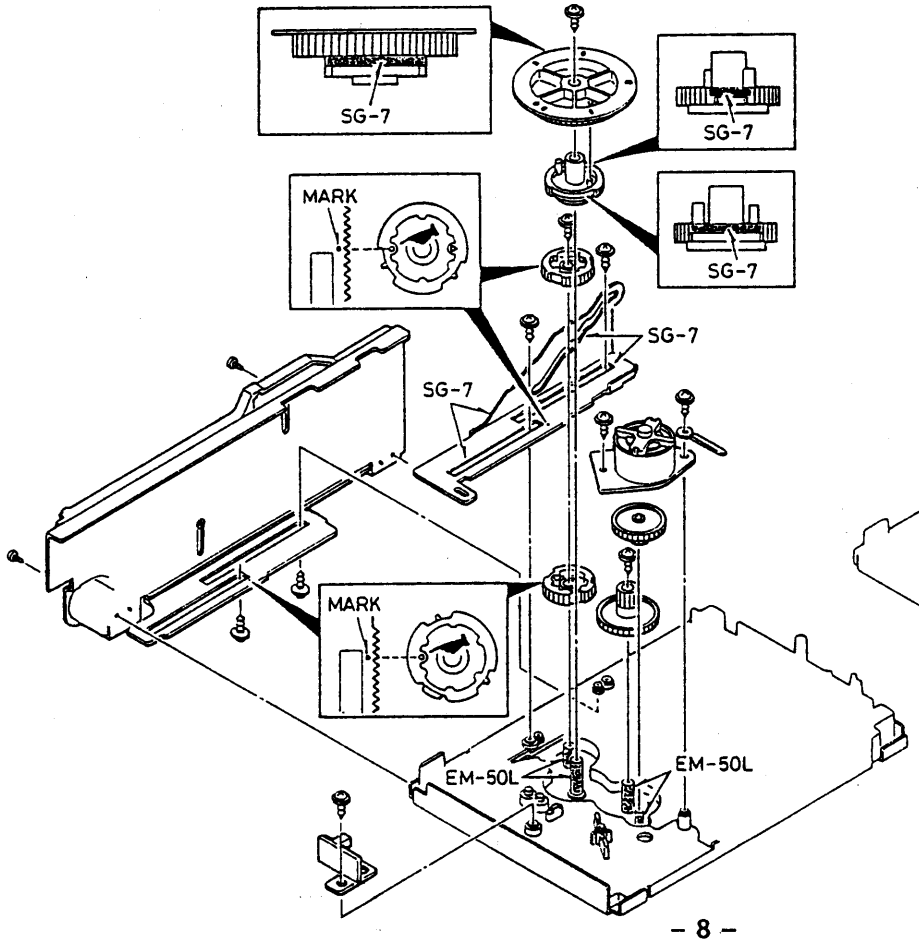
CD MECHANISM ADJUSTMENTS

a. CD CHANGER MECHANISM AND OPEN/CLOSE MOTOR

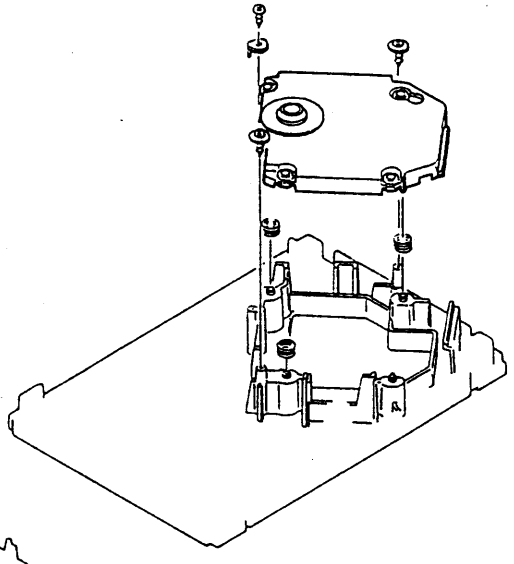
Note :	
EM-50L	MOLYKOTE, EM-50L
SG-7	SAN GREASE, SG-7
G-474B	FLOIL OIL, G-474B



b. UP/DOWN GEAR

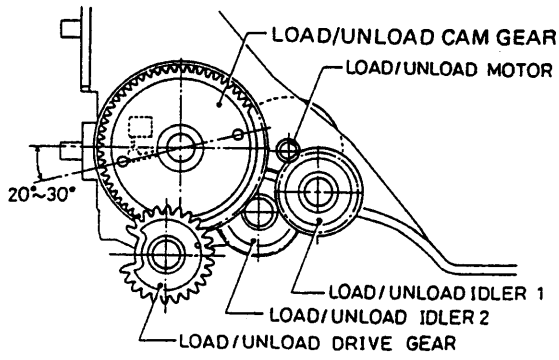


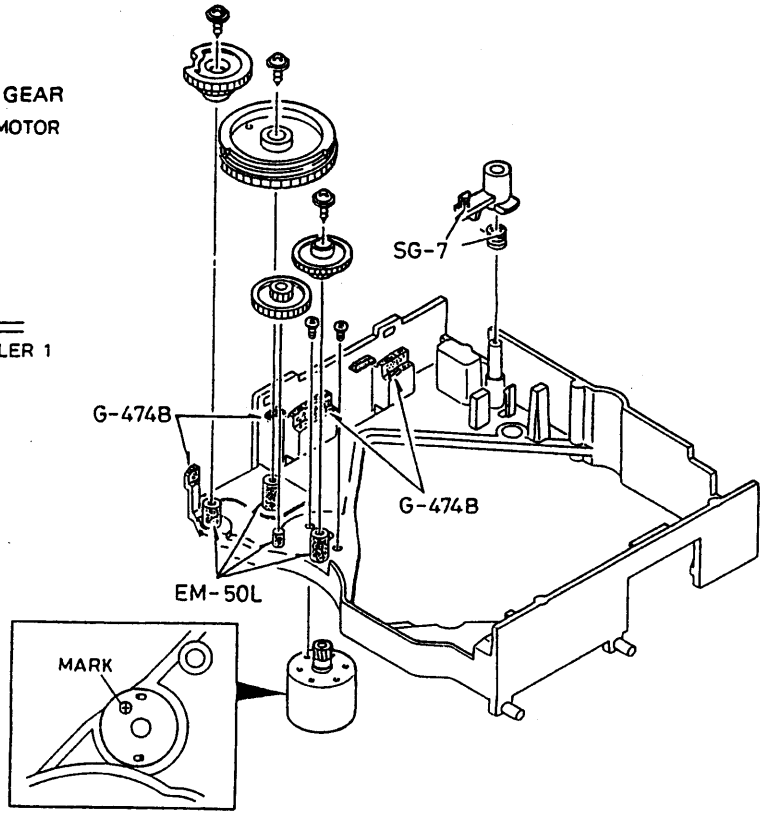
c. CD MECHANISM BLOCK



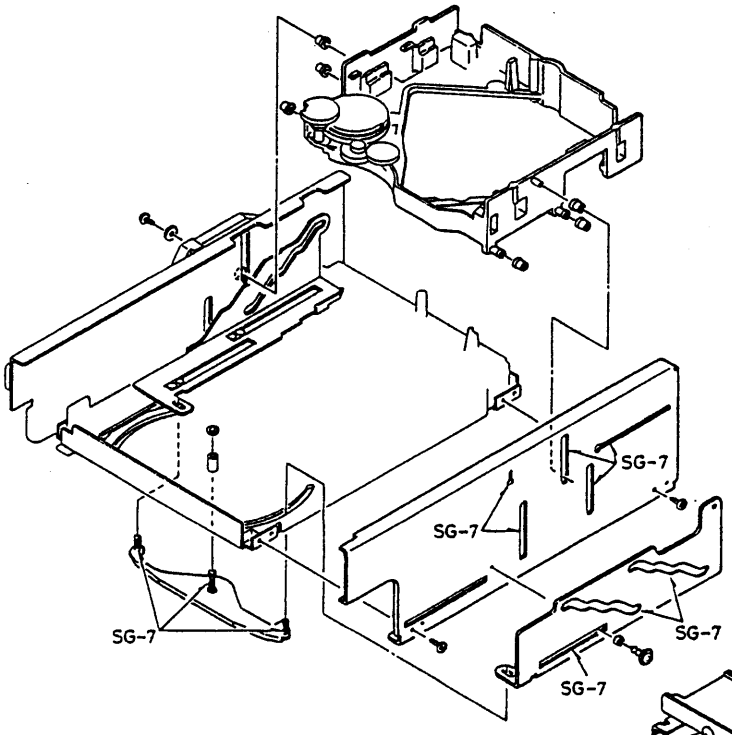
CD MECHANISM ADJUSTMENTS

d. LOAD/UNLOAD MOTOR

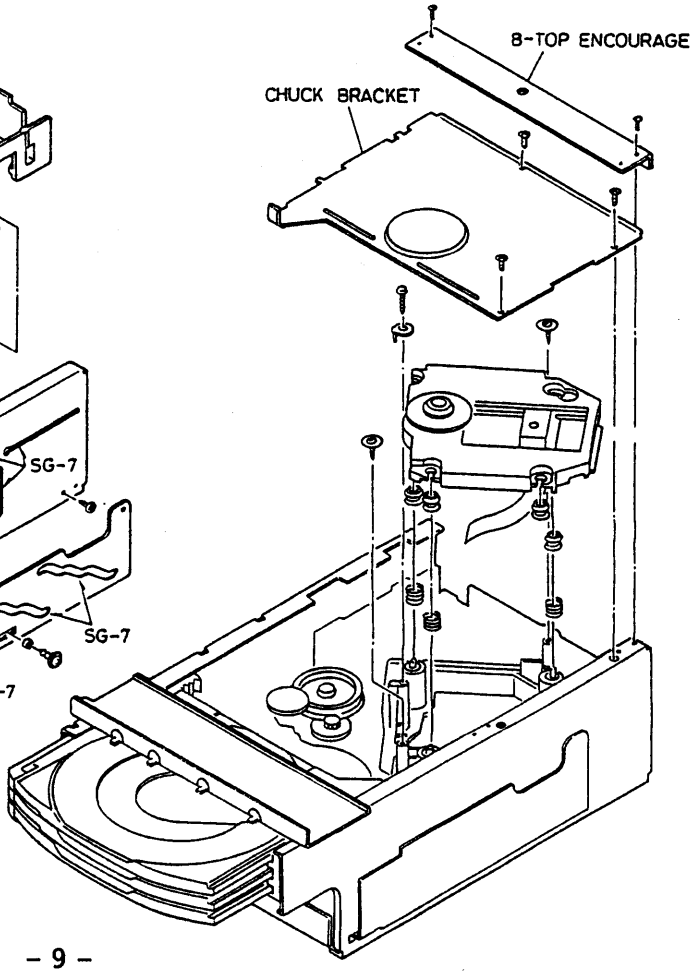




e. TRAY HOLDER



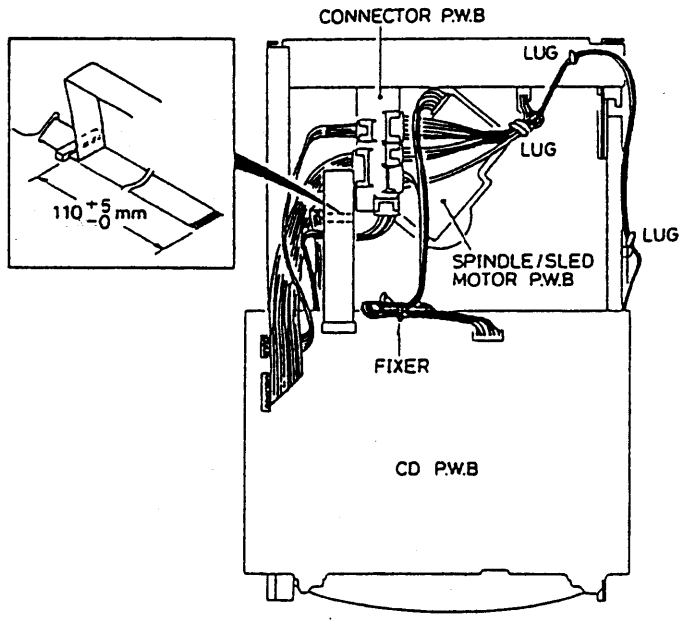
f. CD MECHANISM BLOCK

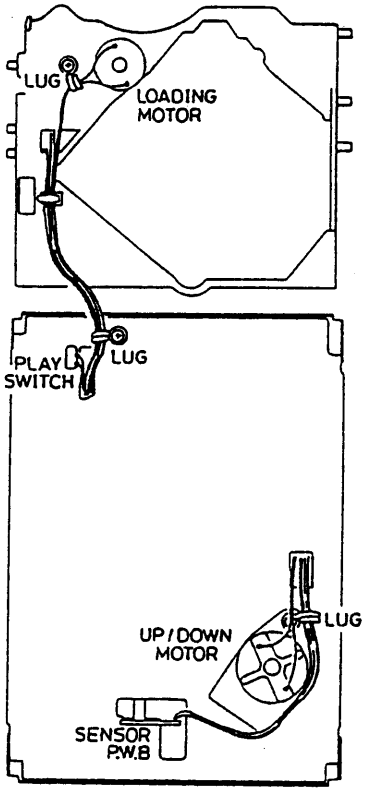


CD MECHANISM ADJUSTMENTS

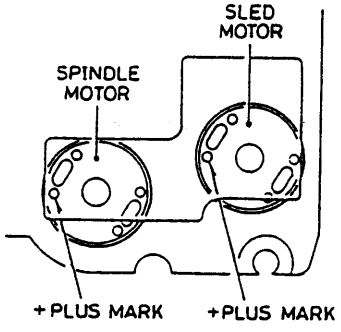
g. REPLACEMENT AND LUBRICATION OF THE CD MECHANISM

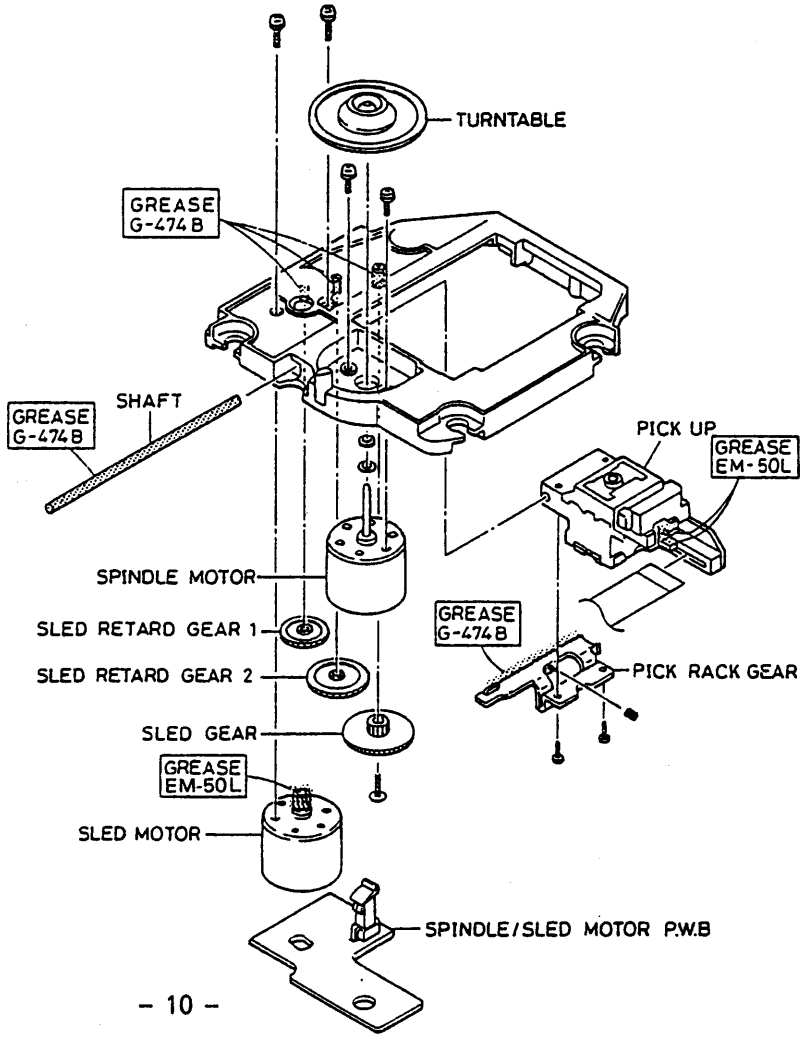
Note :
EM-50L ..... MOLYKOTE, EM-50L
SG-7 ..... SAN GREASE, SG-7
G-474B ..... FLOIL OIL, G-474B





h. CD BASE MECHANISM





CD MECHANISM ADJUSTMENTS

i. CD MECHANISM

(a) Replacement of the spindle motor

- First, prepare the new turntable (701-1) and new special washer (701-4,701-5) for replacement.
  The removed turntable will be deformed by the heat of the soldering iron, and cannot be reused.
- Prepare dial-type calipers.

(1) The attached bonding material can be dissolved by using a 60W soldering iron to heat the shaft at the upper part of the turntable for about one minute.

(2) The turntable can then be removed from the shaft by very carefully applying force upward at the center of the lower surface of the turntable.

(3) Remove the two screws (701-2) and remove the spindle motor (701-6).

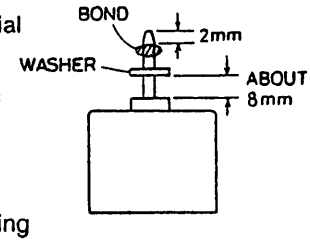
(4) Attach the special washer (701-4, 701-5) to the spindle motor.

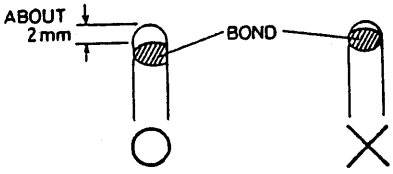
(5) Clean the spindle motor's shaft.
To clean them, use a soft cloth soaked in isopropyl alcohol.

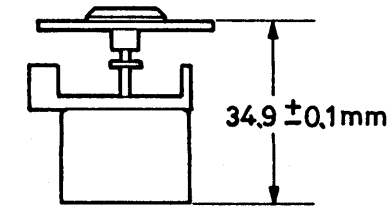
(6) Apply a small amount of a mixture of the **"Three Bond 2001"** and **"2015F"** bonding materials to the motor's shaft.

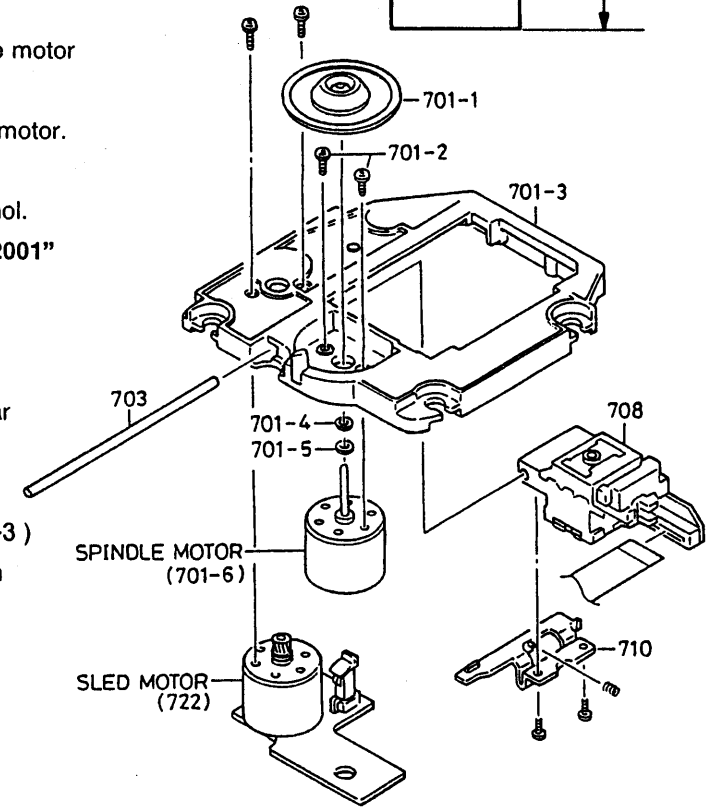
(7) Install the turntable as shown in the figure.

(8) Secure the turntable by pressing gently.
Be sure to wipe away (by using a piece of cloth, or similar material) any bonding material coming out of the hole.









(b) Replacing the pick-up

(1) Insert the pick-up rail (703) into the base chassis. (701-3)

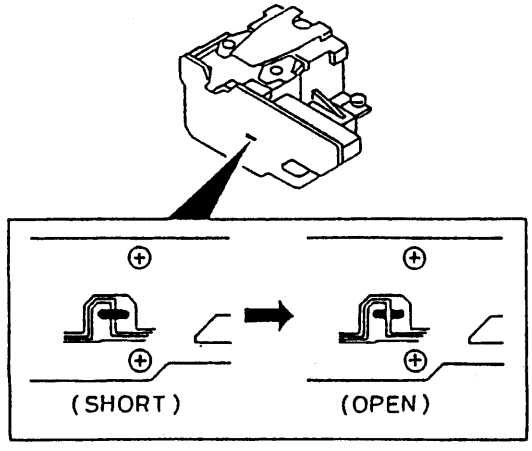
(2) If the lach of the base chassis (701-3) are missing when the pick-up rails have been installed, first wipe the tips of the rail with alcohol.

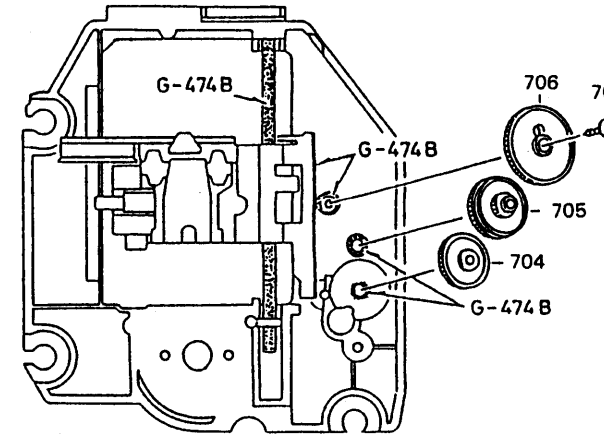
(3) After the pick-up has been replaced, apply grease **(FLOIL G-474B)** to the ▒▒▒ sections.

(4) The pick-up P.W.Board pattern is **"shorted"**, as shown in the figure, so that the new pick-up will not be susceptible to the effects of static.

(5) Set the pattern to **"open"** after the pick-up has been replaced.

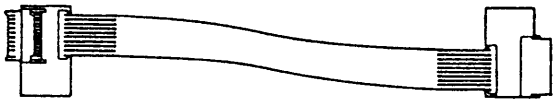
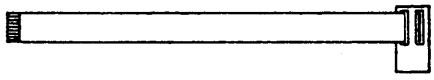
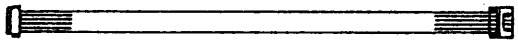
(BE SURE AT THIS TIME, NOT TO TOUCH ANY OTHER PART.)





TEST CABLES

EXTENSION CABLES

No.	PART No.	DESCRIPTION
1	614 275 5099	ASSY, CONNECTOR, 14P
2	614 275 5105	ASSY, CONNECTOR, 10P 
3	614 275 5112	ASSY, CONNECTOR, 13P, FPC 
4	614 275 5129	ASSY, CONNECTOR, 6P 

CD PLAYER ADJUSTMENTS

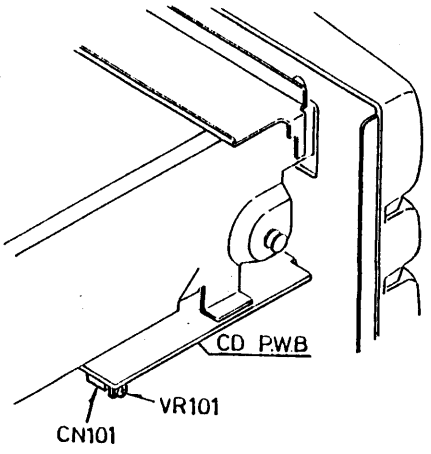
a. PREPARATIONS

(a) Measuring instruments, tools and filter

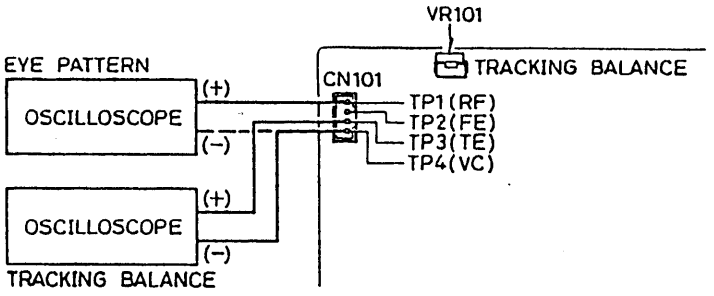
(1) Test disc. : YEDS 18 (SONY) or etc.

(2) Oscilloscope : SS5711 (10 MHz or dual-phenomenon)
or Memoryscope : DSS6521 (Storagescope)

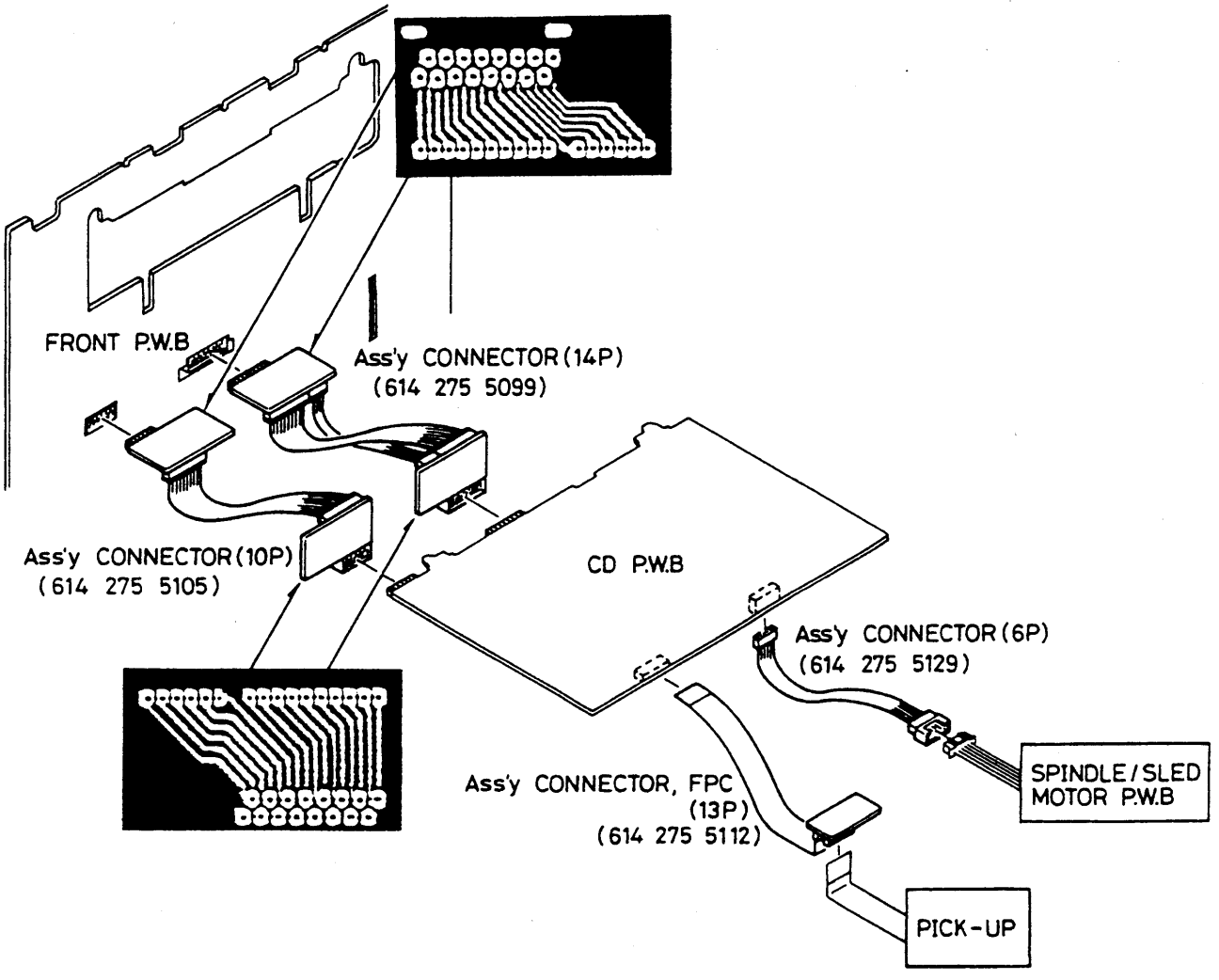
(3) Screwdrivers (non-metallic) for adjustments



b. PARTS LOCATION



c. TEST CABLES CONNECTION

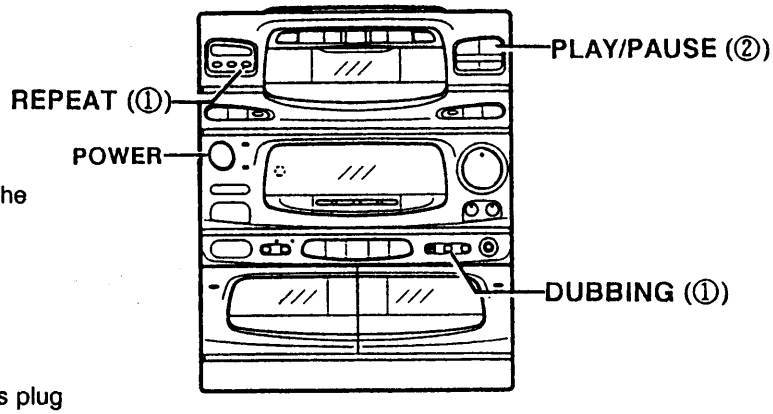


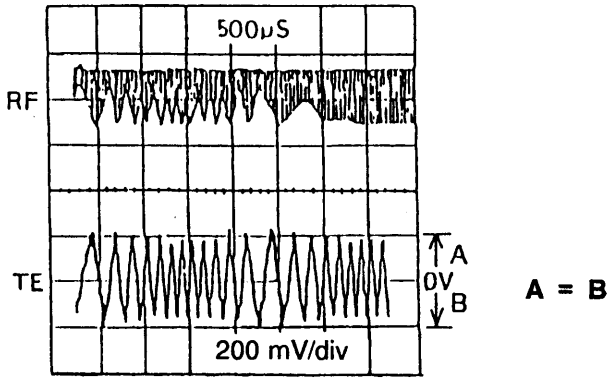
d. ADJUSTMENTS

Adjustment Item	Measuring instrument	Input connection	Output connection	Adjustment location	Adjustment value
(a) Tracking balance	Oscilloscope	—	TP 3 : TE TP 4 : VC	VR101	Waveform symmetry A = B
(b) Checking the "eye" pattern	Oscilloscope	—	TP 1 : RF TP 4 : VC	—	Check be sure that the "**eye**" pattern is at the center of the waveform and that the diamond shape is clearly defined

(a) Tracking balance adjustment

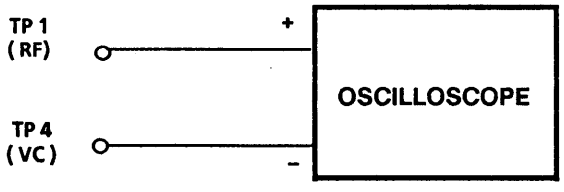
(1) Connect an oscilloscope to TP3 (TE) and TP4 (VC).
(2) Set the test disc. (DISC 1)
(3) Within one second after pressing **DUBBING** (①) and **REPEAT** (①) switches at the same time, press the **PLAY/PAUSE** (②) switch.
(Service mode : TRACKING BALANCE)
(4) Adjust **VR101** so that the oscilloscope's waveform is symmetrical, as shown in the illustration.
(5) To cancel service mode, disconnect the power cord's plug from the electrical outlet.

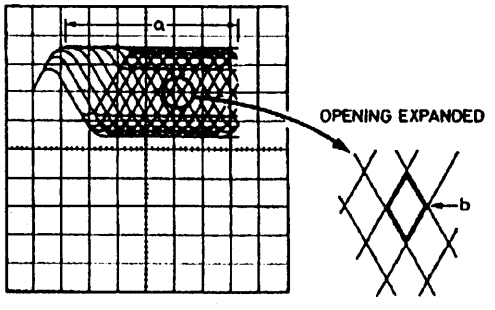




(b) Checking the "eye" pattern

(1) Switch "ON" the POWER.
(2) Connect an oscilloscope to TP1 (RF) and TP4 (VC).
(3) Load the test disc.
(4) PLAY switch push ON.
(5) Check to be sure that the " **eye** " pattern is at the center of waveform and that the diamond shape is clearly defined.
(6) Press the STOP button.
(7) Switch "OFF" the **POWER**.





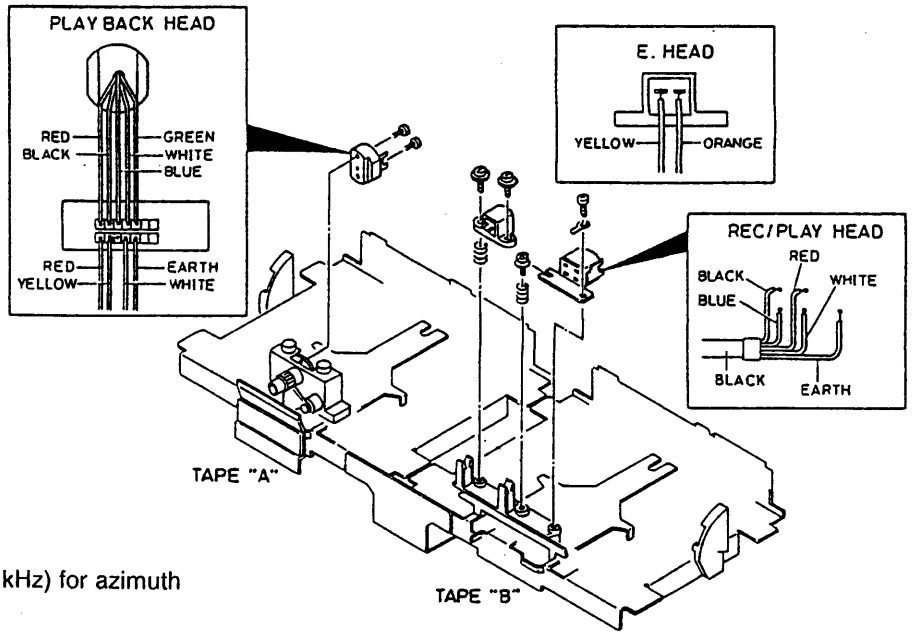
TAPE DECK ADJUSTMENTS

Adjustment Item	Test Tape	Measuring Instrument	Output connection	Adjust location	Adjust value	Note
(a) HEAD AZIMUTH TAPE "B"	VTT738 etc. (10 kHz)	AC-voltmeter	SPEAKER TERMINAL	HEAD AZIMUTH SCREW (FWD)	Max.	---
(b) HEAD AZIMUTH TAPE "A"	VTT738 etc. (10 kHz)	AC-voltmeter	SPEAKER TERMINAL	HEAD AZIMUTH SCREW (FWD / REVERSE)	Max.	---
(c) MOTOR SPEED (NORMAL)	MTT-111 (3,000 Hz)	FREQUENCY COUNTER	SPEAKER TERMINAL	VR311	3,000 Hz	JUMPER "OPEN"
(d) MOTOR SPEED (HIGH)	TCW-211 (1,500 Hz)	FREQUENCY COUNTER	SPEAKER TERMINAL	Checking	3,000 Hz	JUMPER "SHORT"

a. HEAD REPLACEMENT AND AZIMUTH ADJUSTMENT

(a) Head replacement

(1) After replacement, demagnetize the heads by using a degausser.
(2) Be sure to clean the heads before attempting to make any adjustments.
(3) Be sure both channels (1 and 2) are the same level (Using a dual-channel oscilloscope
(4) All wiring should be returned to the original position after work is completed.



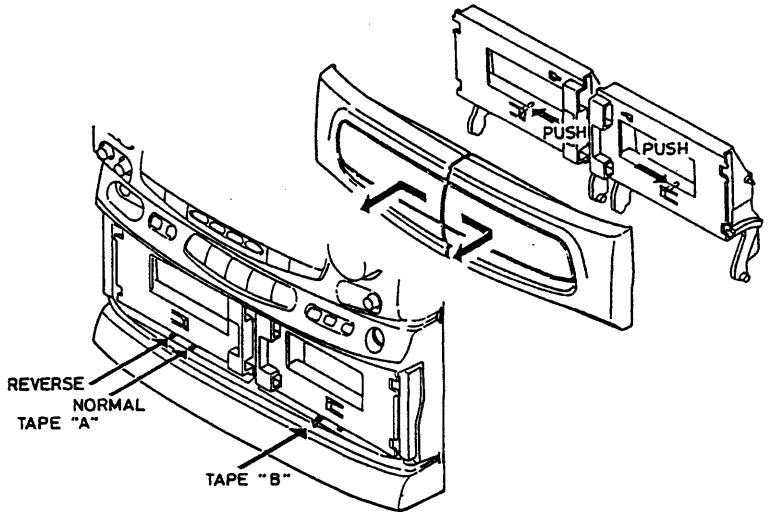
(b) Head azimuth

- **TAPE "A"**

(1) Load a test tape (VTT-738, etc.: 10 kHz) for azimuth adjustment.
(2) Press the Forward PLAY button (normal playback).
(3) Use a flat-tip (-) screwdriver to turn the screw for normal azimuth adjustment so that the left and right outputs are maximized at the same phase during normal playback.
(4) Press the Tape "A" Reverse PLAY button.
(5) Play the tape in the reverse mode.
(6) Use a flat-to- (-) screwdriver to turn the screw for reverse azimuth adjustment so that the left and right outputs are maximized at the same phase during reverse playback.
(7) Press the STOP button.

- **TAPE "B"**

(1) Load a test tape for azimuth adjustment.
(2) Press the PLAY button.
(3) Azimuth screw adjustment.
(4) Press the STOP button.

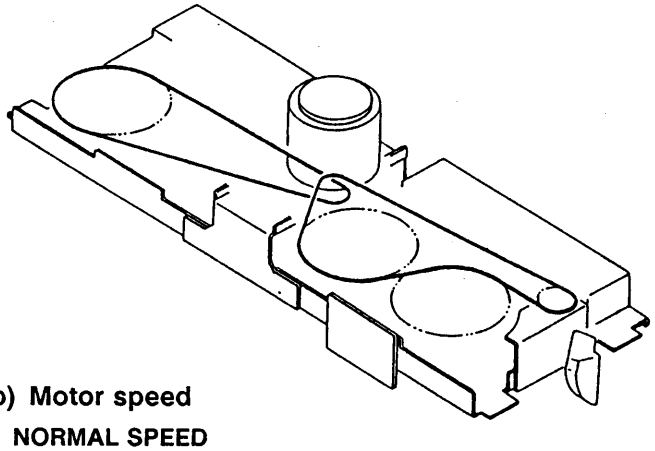


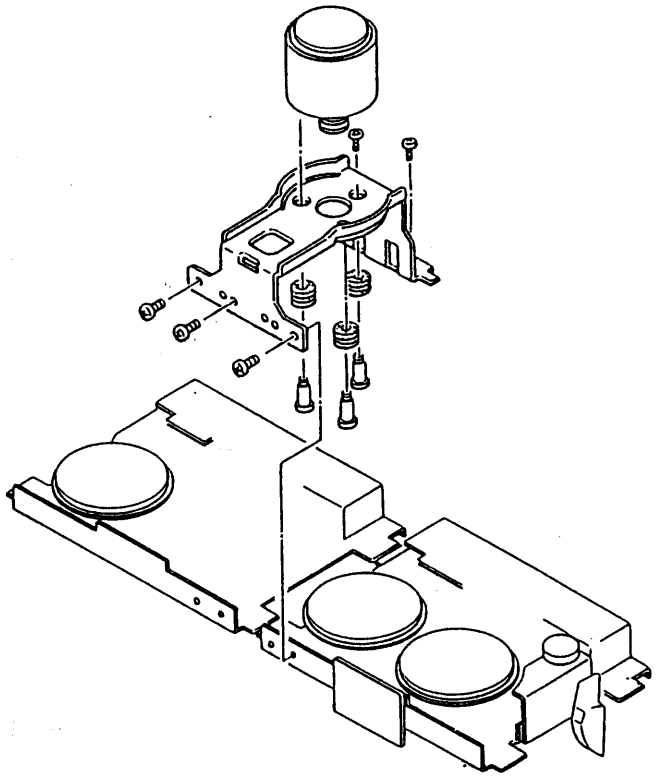
- After making the adjustment, secure the azimuth adjustment screw by applying screw lock (TB-1401B).

TAPE DECK ADJUSTMENTS

b. MOTOR REPLACEMENT AND SPEED ADJUSTMENT

(a) Motor replacement





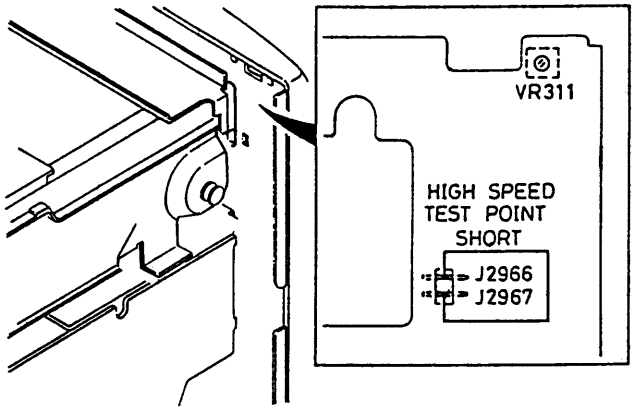
(b) Motor speed

- **NORMAL SPEED**

(1) Insert the test tape (MTT-111, etc. 3,000 Hz) into Tape"A".
(2) Press PLAY button.
(3) Adjust VR311 so that the frequency counter shows a reading of 3,000Hz.
(4) Press STOP button.

- **HIGH SPEED**

(1) Insert the test tape (TCW-211, etc. 1,500 Hz optional) into Tape"B".
(2) Press PLAY button.
(3) Set to the high-speed condition.
(4) Short-circuit test points jumper (J2966,J2967).
(5) Checking the frequency counter reading is 3,000 Hz.
(6) Press STOP button.
(7) After the completion of the adjustment, remove the short-circuit between jumper (J2966,J2967).



c. CHECKING THE MECHANISM TORQUES

- Clean the head, capstan and pinch roller before making any measurement
- Check during both normal and reverse playback.

TAPE "A"

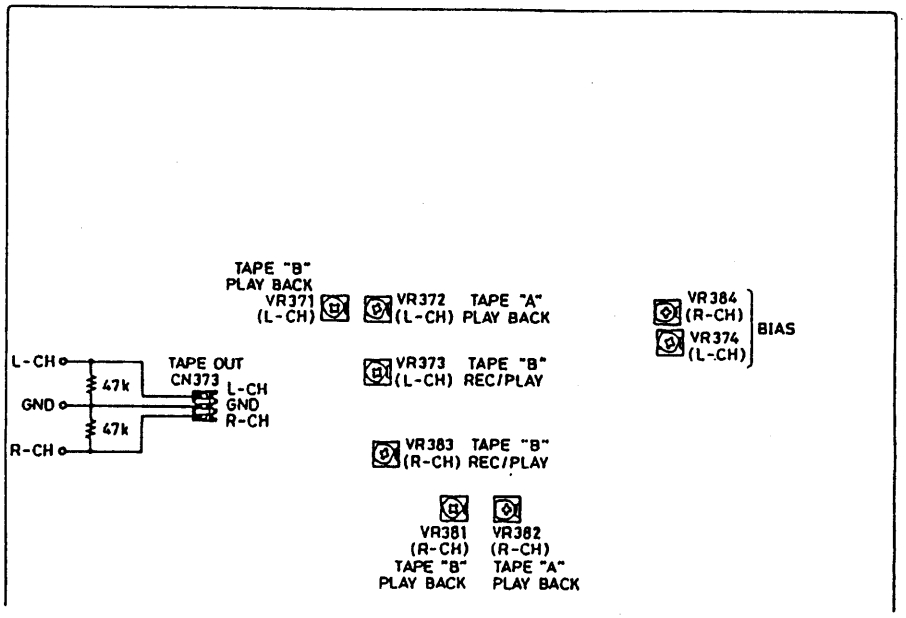
Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY:TW-2111A (FWD) PLAY:TW-2121A (REV) F.FWD/REW:TW-2231	PLAY:TW-2111A (FWD) PLAY:TW-2121A (REV)	Drive-power cassette TW-2412 (FWD) TW-2422 (REV)
PLAY	30~ 60 gr.cm	2.0~ 4.5 gr.cm	100 gr or more
F.FWD / REW	55~ 120 gr.cm	–	–

TAPE "B"

Measurement	Take-up torque	Back tension	Tape tension
Cassette for measurement	PLAY:TW-2111A F.FWD/REW:TW-2231	PLAY:TW-2111A	Drive-power cassette TW-2412
PLAY	30~ 60 gr.cm	2.0~ 4.5 gr.cm	100 gr or more
F.FWD / REW	55~ 120 gr.cm	–	–

AMPLIFIER ADJUSTMENTS

- Make the following adjustments after first cleaning the head assembly and checking the adjustment of the head azimuth.



Adjustment Item	Test Tape	DOLBY NR SW.	Measuring Instrument	Input Connection	Output connection	Adjust location	Adjust value
(a) Playback output	TCC-130 (DOLBY TAPE)	OFF	AC-Voltmeter	—	TAPE OUT	(TAPE"A") VR372 VR382 (TAPE"B") VR371 VR381	580 mV
(b) Recording / Playback gain	AC-224 (NORMAL)	OFF	AC-Voltmeter AF-Oscillator	VIDEO - 11 dB, 1 kHz	TAPE OUT	(TAPE"B") VR373 VR383	400 mV
(c) Recording / Playback frequency response	AC-224 (NORMAL)	ON	AC-Voltmeter AF-Oscillator	VIDEO - 31 dB, 1 kHz, 10 kHz	TAPE OUT	(TAPE"B") VR374 VR384	0 ± 1.0 dB at 1 kHz and 10 kHZ

a. ADJUSTMENTS

(a) Playback output adjustment

Dolby NR switch : OFF

(1) TAPE "A"
Play the test tape and adjust VR372 (L-CH) and VR382 (R-CH) so that playback output becomes 580 mV.

(2) TAPE "B"
Play the test tape and adjust VR371 (L-CH) and VR381 (R-CH) so that playback output becomes 580 mV.

(b) Recording / Playback frequency gain adjustment

Input signal : - 11 dB, 1 kHz
Tape to be used : NORMAL (AC-224, etc.)

(1) Introduce input signals to the VIDEO terminals, and, with the unit in the REC. PAUSE mode, adjustment input level for 400 mV out.
(2) Record the input signal.
(3) Press the REWIND button and rewind tape to the beginning of the recording just made.
(4) Press the PLAY button.
(5) Adjust VR373 (L-CH) and VR383 (R-CH) so that the recording and playback output level differences become ± 1 dB.
(6) Repeat steps (1) to (5).

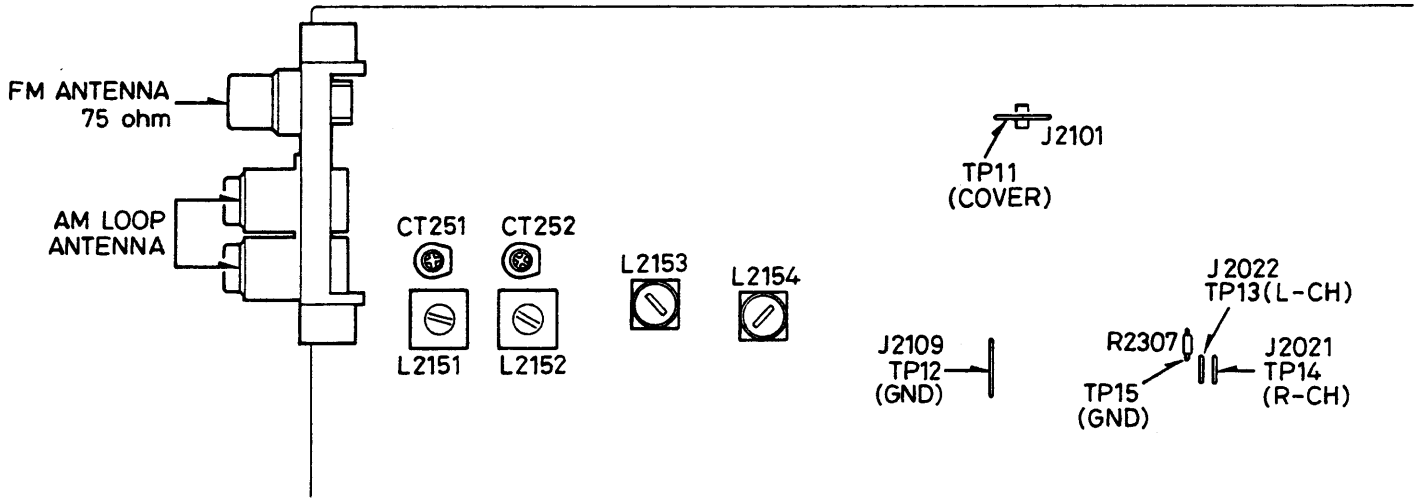
(c) Recording / Playback response adjustment

Input signal : - 31 dB, 1 kHz, 10 kHz
Tape to be used : NORMAL (AC-224, etc.)
Dolby NR switch : ON

(1) Introduce input signals to the VIDEO terminals.
(2) With the unit in the REC. mode.
Record these input signals (1 kHz → 10 kHz → 1 kHz → 10 kHz).
(3) Press the REWIND button and rewind tape to the beginning of the recording just made.
(4) Press the PLAY button.
(5) Adjust VR374 (L-CH) and VR384 (R-CH) so that the 10 kHz and 1 kHz and output level differences become ± 1 dB.
(6) Repeat steps (1) to (5).

TUNER ADJUSTMENTS

- Use a plastic screw driver for adjustments. • Speaker impedance : 6 ohm • Standard Output : 500 mW
- FM MODE switch : STEREO
- TUNING FM : 87.5 - 108.0 MHz (50 kHz step) MW : 522 - 1,611 kHz (9 kHz step) LW : 144 - 288 kHz (9 kHz step)



a. ADJUSTMENTS OF FM BAND

SG RF Level : 75 ohm Open Voltage dBμV
Antenna : 75 ohm unbalanced , Modulation : 1 kHz,
Dev. : ± 75 kHz (MONO) ± 40 kHz (STEREO) ± 6.75 kHz (PILOT)

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP 11 (H), TP 12 (G)	87.5 MHz	Low end	---	(more than 0.9V)
				108.0 MHz	High end	---	(less than 9.0V)
2	Tracking	FM Antenna (SG = 8dBμV)	Connect to VTVM TP 13 (H) or TP 14 (H), TP 15 (G)	90.0 MHz	90.0 MHz	---	Max.
				106.0 MHz	106.0 MHz	---	

b. ADJUSTMENTS OF MW BAND

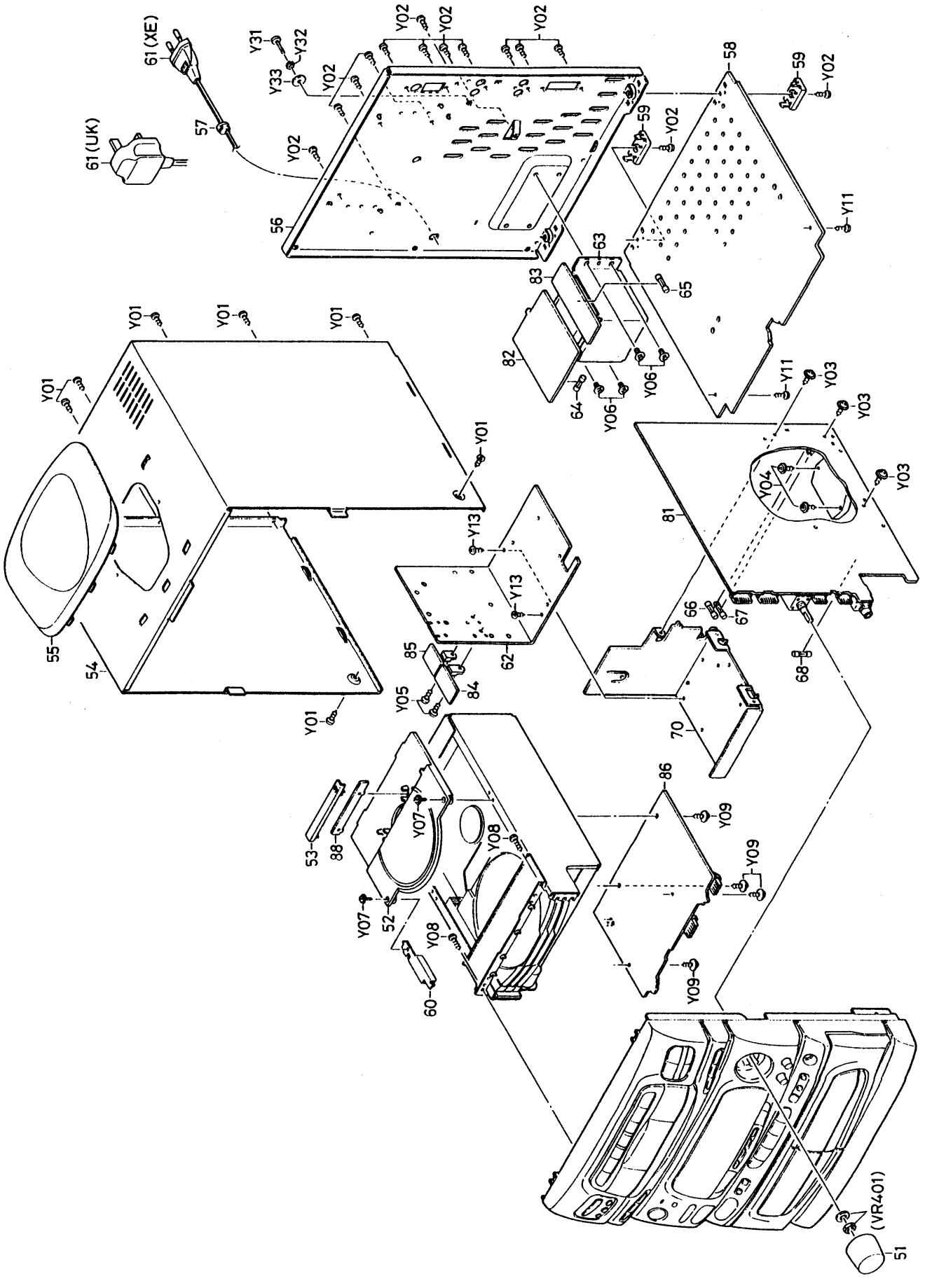
SG Modulation : 1,000 Hz, 30% IRE Loop Antenna

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP11 (H), TP12 (G)	522 kHz	Low end	L2153	1.1 ± 0.05V
				1611 kHz	High end	---	(less than 9.0V)
2	Tracking	Connect AM SG to Test Loop (SG = 80dBμV)	Connect VTVM TP13 (H) or TP14 (H), TP15 (G)	603 kHz	603 kHz	L2152	Max.
				1404 kHz	1404 kHz	CT252	

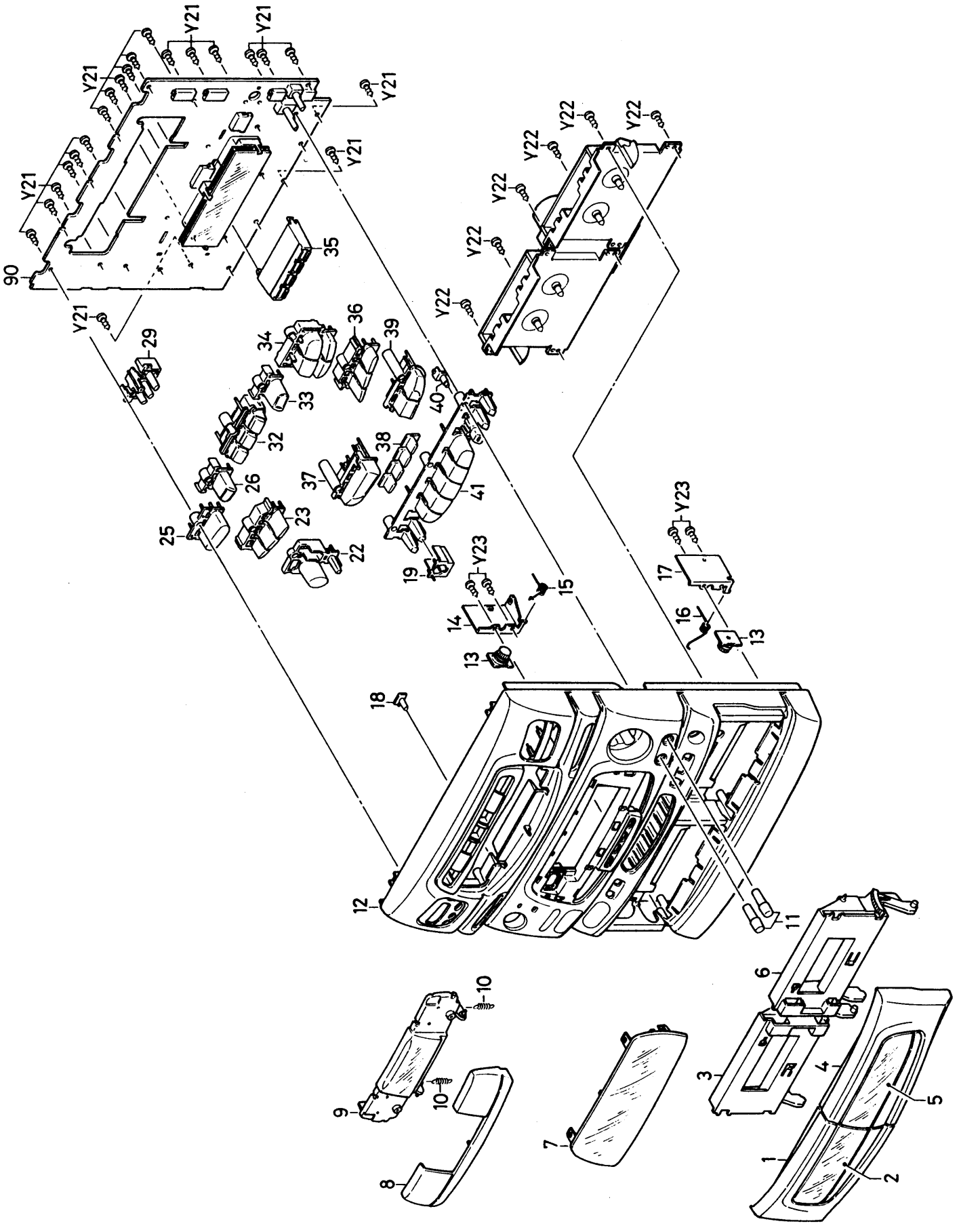
c. ADJUSTMENTS OF LW BAND

Step	Adjusting Circuit	Connections		SG Frequency	Position of tuning dial	Adjustment	VTVM Oscilloscope or DC voltmeter
		Input	Output				
1	Tuning coverage	---	Connect to Digital DC voltmeter TP11 (H), TP12 (G)	144 kHz	Low end	L2154	1.5 ± 0.05V
				288 kHz	High end	---	(less than 9.0V)
2	Tracking	Connect AM SG to Test Loop (SG = 85dBμV)	Connect to VTVM TP13 (H) or TP14 (H), TP15 (G)	162 kHz	162 kHz	L2151	Max.
				279 kHz	279 kHz	CT251	

EXPLODED VIEW (CABINET & CHASSIS)



EXPLODED VIEW (CABINET & CHASSIS)



PARTS LIST

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION: Regular type resistors and capacitors are not listed. To know those values, refer to the schematic diagram.
Regular type resistors are less than 1/4W carbon type and 0 ohm chip resistors.
Regular type capacitors are less than 50V and less than 1000μF type of Ceramic type and Electrical type.

N.S.P : Not available as service parts.

PACKING & ACCESSORIES

Ref. No.	Part No.	Description
	614 279 2971	CARTON CASE,SET (XE)
	614 280 9211	CARTON CASE,SET (UK)
	614 273 2366	CUSHION,FRONT
	614 273 2359	CUSHION,BACK
	614 271 6656	CUSHION,SET (XE)
	614 269 0949	CUSHION,SET (UK)
	614 280 9266	INSTRUCTION MANUAL (XE)
	614 280 9259	INSTRUCTION MANUAL (UK)
	614 245 8587	NOTICE,AC POWER CORD (UK)
	645 005 1227	ASSY,ANTENA,LOOP
	645 017 3813	REMOCON
	645 018 1931	LID,BATTERY,REMOTE CONTROL
	614 229 4635	ANTENNA,FM ANT
	614 283 2295	LABEL,CAUTION,OPEN/CLOSE
	614 281 1078	LABEL,CAUTION,CARRING

CABINET & CHASSIS

Ref. No.	Part No.	Description
1	614 272 4941	COVER,DECK(L)
2	614 273 2014	DEC,WINDOW,DECK(L)
3	614 273 2724	ASSY,LID,CASSETTE,DECK (L)
4	614 273 1987	COVER,DECK(R)
5	614 275 7543	DEC,WINDOW,DECK(R)
6	614 273 2731	ASSY,LID,CASSETTE,DECK (R)
7	614 280 1642	DEC,WINDOW,DISPLAY
8	614 276 3063	COVER,CD DOOR
9	614 273 2007	DOOR,CD
10	614 267 7773	SPRING,TENS,CD DOOR
11	614 273 2144	KNOB,ROTARY,BALANCE/ SPECTRUM
12	614 280 9044	ASSY,PANEL,FRONT
13	614 270 8316	ASSY,GEAR,CASSETTE LID
14	614 273 3134	MOUNTING,BRACKET, FRONT FIX (L)
15	614 273 3172	SPRING,WIRE, CASSETTE OPEN (L)
16	614 273 3189	SPRING,WIRE, CASSETTE OPEN (R)
17	614 273 3141	MOUNTING,BRACKET, FRONT FIX (R)
18	614 273 2052	DEC,WINDOW,STANDBY
19	614 273 2069	DEC,WINDOW,TAPE A/B
22	614 273 1833	BUTTON,POWER
23	614 273 1802	BUTTON,FM MODE
25	614 273 1949	BUTTON,COMP REC
26	614 273 1857	BUTTON,DISC CHECK
29	614 273 1826	BUTTON,EDIT
32	614 277 4021	ASSY,BUTTON,DISC NO
33	614 273 1864	BUTTON,OPEN/CLOSE
34	614 273 1796	BUTTON,CD PLAY/STOP
35	614 273 2212	REFLECTOR,FUNCTION
36	614 273 1819	BUTTON,BAND
37	614 273 1925	BUTTON,SOUND PRESET
38	614 273 2045	DEC,WINDOW,FUNCTION
39	614 273 1840	BUTTON,FUNCTION
40	614 273 2076	DEC,WINDOW,REC
41	614 275 7529	BUTTON,DECK
51	614 273 2137	KNOB,ROTARY,MAIN VOLUME
52	614 270 9948	DEC,WINDOW
53	614 270 9955	MOUNTING,BRACKET
54	614 273 1956	CABINET
55	614 280 9006	ASSY,DEC,ESCUTCHEON
56	614 280 9129	PANEL,REAR (XE)
56	614 279 0540	PANEL,REAR (UK)
57	614 129 1901	FIXER,AC POWER CORD
58	614 279 1523	ASSY,CABINET,BOTTOM
59	614 265 7249	STAND
60	614 278 8158	HOLDER,DISC TRAY PROTECTOR
	614 232 0464	LABEL,SAFETY,LASER
	614 191 3698	LABEL,LASER PICKUP
	614 231 6832	LABEL,SAFETY,LASER CLASS 1
	614 129 4971	FIXER,LEAD MTG.

FIXING PARTS

Ref. No.	Part No.	Description
Y01	411 021 6603	SCR S-TPG BIN 3X8MM,CABINET
	411 021 6603	SCR S-TPG BIN 3X8MM, REAR-CABINET
Y02	411 021 3503	SCR S-TPG BIN 3X10M, BOTTOM-STAND
	411 021 3503	SCR S-TPG BIN 3X10M, REAR-HEAT SINK
	411 021 3503	SCR S-TPG BIN 3X10MM, REAR-ELECTRICAL PARTS
	411 021 3503	SCR S-TPG BIN 3X10MM, REAR-CD MECHANISM
Y03	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, HEAT SINK-AMP PWB
Y04	411 020 9506	SCR S-TPG BRZ+FLG 3X16MM, HEAT SINK POWER IC
Y05	411 021 3503	SCR S-TPG BIN 3X10MM, 3-REGULATOR
Y06	411 001 3905	SCR S-TPG BIN 4X6MM, POWER TRANSFORMER
Y07	411 024 3708	SCR S-TPG PAN+FLG 2X6MM, DEC WINDOW
Y08	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT-CD MECHANISM
Y09	411 020 9902	SCR S-TPG BRZ+FLG 3X8MM, CD PWB
Y11	411 021 3503	SCR S-TPG BIN 3X10MM, BOTTOM-FRONT
Y13	411 021 3503	SCR S-TPG BIN 3X10MM, HEAT SINK-HEAT SINK

Ref. No.	Part No.	Description
Y21	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT PWB
Y22	411 021 3503	SCR S-TPG BIN 3X10MM, TAPE DECK MECHANISM
Y23	411 021 3503	SCR S-TPG BIN 3X10MM, FRONT UNDER BRACKET
Y31	411 098 0801	SCR S-TPG BIN 3X14MM, PHONO GND
Y32	411 008 0402	WASHER, OUT TW, 3X6.5X0.45MM,PHONO
Y33	411 105 9704	WASHER Z 3X10X1MM,PHONO

ELECTRICAL PARTS

Ref. No.	Part No.	Description
61	⚠614 255 2513	POWER CORD,AC (XE)
or	⚠614 023 3148	POWER CORD,AC (XE)
or	⚠614 233 8971	POWER CORD,AC (XE)
61	⚠645 008 9732	POWER CORD,AC (UK)
or	⚠645 005 7120	POWER CORD,AC (UK)
62	614 265 7041	HEAT SINK,UPPER
63	⚠614 017 2731	TRANSFORMER,POWER
64	⚠423 017 0007	FUSE 250V 1A (FU499)
65	⚠423 017 0007	FUSE 250V 1A (FU492)
66	⚠423 016 8004	FUSE 250V 3.15A (FU480)
67	⚠423 016 8004	FUSE 250V 3.15A (FU470)
68	⚠423 017 0007	FUSE 250V 1A (FU491)
70	614 281 4291	HEAT SINK,LOWER (XE)
70	614 165 7034	HEAT SINK,LOWER (UK)
CN381	614 276 3575	ASSY,WIRE,4P,A HEAD
CN382	614 276 3599	ASSY,WIRE,7P,B HEAD

TUNER, AMP & TAPE DECK P.W.BOARD ASSY

Ref. No.	Part No.	Description
81	614 280 6661	ASSY,PWB,TUNER/AMP/TAPE DECK
C1	403 062 5905	POLYESTER 5600P M 50V
C6	403 057 0403	POLYESTER 0.01U K 50V
C7	403 057 0403	POLYESTER 0.01U K 50V
C2152	403 082 0201	POLYPRO 470P J 100V
C2155	403 082 2205	POLYPRO 560P J 100V
C2463	403 106 1603	NP-ELECT 1U Q 50V
C3305	403 058 9900	POLYESTER 0.018U K 50V
C3306	403 058 1102	POLYESTER 1500P K 50V
C4508	403 067 7003	MT-COMPO 0.27U J 50V
C4608	403 067 7003	MT-COMPO 0.27U J 50V
C4706	403 057 3800	POLYESTER 0.1U M 50V
C4707	403 057 3800	POLYESTER 0.1U M 50V
C4806	403 057 3800	POLYESTER 0.1U M 50V
C4807	403 057 3800	POLYESTER 0.1U M 50V
C4901	403 200 0304	ELECT 3300U M 50V
C4902	403 200 0304	ELECT 3300U M 50V
C4903	403 189 4706	ELECT 4700U M 35V
CN201	614 255 5750	TERMINAL,FM ANTENNA
CN202	614 234 1728	TERMINAL,GROUND
CN371	645 007 0075	PLUG,4P
or	645 005 8110	PLUG,4P
CN372	645 007 0105	PLUG,7P
or	645 006 0861	PLUG,7P
CN373	614 251 7338	SOCKET,3P
CN401	614 260 7411	SOCKET,VIDEO
CN402	614 226 9985	SOCKET,6P

Ref. No.	Part No.	Description
CN403	614 226 9985	SOCKET,6P
CN404	614 227 0011	SOCKET,10P
CN405	614 227 0011	SOCKET,10P
CN406	614 226 9985	SOCKET,6P
CN408	614 020 6586	SOCKET,6P
CN409	614 020 1222	SOCKET,3P
CN410	614 020 1222	SOCKET,3P
CN411	645 008 5314	TERMINAL,SPEAKER
CN412	645 009 0042	JACK,PHONES
CN413	614 260 7411	SOCKET,SURROUND SPEAKER
CN474	645 007 0051	PLUG,2P
or	645 005 7366	PLUG,2P
CT251	645 004 2317	TRIMMER,30PF
or	645 012 7748	TRIMMER,30PF
CT252	614 007 6356	TRIMMER,11PF
or	645 012 7731	TRIMMER,11PF
D2151	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2152	407 091 5004	VARACTOR DI SVC321SPA-C-2
D2153	407 012 4406	DIODE 1SS133
D2301	407 012 4406	DIODE 1SS133
D2451	407 012 4406	DIODE 1SS133
D2452	407 012 4406	DIODE 1SS133
D2453	407 012 4406	DIODE 1SS133
D2454	407 012 4406	DIODE 1SS133
D2455	407 012 4406	DIODE 1SS133
D3151	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS76
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D3152	407 012 4406	DIODE 1SS133
or	407 012 5809	DIODE 1SS76
or	407 007 9904	DIODE GMA01
or	407 153 6109	DIODE 1SS119-041
D4900	407 004 9709	DIODE DSK10C
D4901	⚠407 141 2809	DIODE IN5402
D4902	⚠407 141 2809	DIODE IN5402
D4903	⚠407 141 2809	DIODE IN5402
D4904	⚠407 141 2809	DIODE IN5402
D4905	⚠407 107 6001	DIODE RL203-BD80
D4906	⚠407 107 6001	DIODE RL203-BD80
D4907	⚠407 107 6001	DIODE RL203-BD80
D4908	⚠407 107 6001	DIODE RL203-BD80
D4909	407 099 5402	ZENER DIODE MTZJ6.2B
D4914	407 012 4406	DIODE 1SS133
D4915	407 012 4406	DIODE 1SS133
D4916	407 012 4406	DIODE 1SS133
D4921	407 012 4406	DIODE 1SS133
D4922	407 012 4406	DIODE 1SS133
D4925	407 099 3309	ZENER DIODE MTZJ13C
D4952	407 012 4406	DIODE 1SS133
D4953	407 099 5204	ZENER DIODE MTZJ5.1B
D4954	407 099 5204	ZENER DIODE MTZJ5.1B
D4955	407 099 5204	ZENER DIODE MTZJ5.1B
D4958	407 012 4406	DIODE 1SS133
D4959	407 099 6300	ZENER DIODE MTZJ11A
D4999	407 099 5402	ZENER DIODE MTZ6.2B
FPC01	645 006 4760	HOLDER,FUSE
FPC02	645 006 4760	HOLDER,FUSE
FPC03	645 006 4760	HOLDER,FUSE
FPC04	645 006 4760	HOLDER,FUSE
FPC05	645 006 4760	HOLDER,FUSE
FPC06	645 006 4760	HOLDER,FUSE
HS301	614 215 9347	HEAT SINK

PARTS LIST

Ref. No.	Part No.	Description
IC231	409 345 5204	IC TA2057N
IC245	409 066 7600	IC LM7001
IC311	409 353 8808	IC BU4094BCF
IC351	409 270 2101	IC HA12136AT
or	409 199 1209	IC HA12136A
IC371	409 228 0302	IC M51167BFP
IC372	409 241 5308	IC BA3126N
IC448	409 133 8103	IC NJM4558M-S
IC450	409 353 8709	IC BU4052BCF
IC451	409 133 8103	IC NJM4558M-S
IC453	409 133 8103	IC NJM4558M-S
IC454	409 353 8709	IC BU4052BCF
IC455	409 353 8808	IC BU4094BCF
IC456	409 114 4803	IC LB1641
IC457	409 275 5107	IC BA3826S
IC460	⚠409 047 0903	IC STK4152MK2
IC461	409 133 8103	IC NJM4558M-S
IC462	409 353 8808	IC BU4094BCF
IC470	409 133 8103	IC NJM4558M-S
L2151	614 255 5798	TRANS,RF,LW
L2152	614 255 5781	TRANS,RF,MW
L2153	614 255 5767	TRANS,OSC,MW
L2154	614 255 5774	TRANS,OSC,LW
L2155	645 004 0580	INDUCTOR,1M J
L2451	645 001 4581	INDUCTOR,100U K
L3301	614 212 0804	TRANS,OSC
L3501	614 270 4295	FILTER,LC,19K&85KHz
L3551	614 270 4295	FILTER,LC,19K&85KHz
L3701	645 004 0580	INDUCTOR,1M J
L3702	614 029 3937	MX COIL,TRAP COIL 85KHZ
or	614 029 3142	MX COIL,85KHZ
L3801	645 004 0580	INDUCTOR,1M J
L3802	614 029 3937	MX COIL,TRAP COIL 85KHZ
or	614 029 3142	MX COIL,85KHZ
Q2152	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3903	TR 2SC536-G-SPA
Q2153	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3903	TR 2SC536-G-SPA
Q2154	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3903	TR 2SC536-G-SPA
Q2155	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3903	TR 2SC536-G-SPA
Q2156	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 019 3903	TR 2SC536-G-SPA
Q2157	405 114 8407	TR 2SK193-LL
or	405 114 8506	TR 2SK193-ML
Q2201	405 016 0905	TR 2SC2839-E-SPA
Q2301	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
Q2302	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U
or	405 011 7503	TR 2SC1740-S
or	405 020 7204	TR 2SC945A-K
or	405 019 3903	TR 2SC536-G-SPA
Q2461	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U
or	405 011 7503	TR 2SC1740-S
or	405 020 7204	TR 2SC945A-K
or	405 019 3903	TR 2SC536-G-SPA
Q2462	405 019 3705	TR 2SC536-G-AUD-SPA
or	405 017 9709	TR 2SC3330-U
or	405 011 7503	TR 2SC1740-S
or	405 020 7204	TR 2SC945A-K
or	405 019 3903	TR 2SC536-G-SPA

Ref. No.	Part No.	Description
Q2491	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
Q2492	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
Q2493	405 000 0508	TR DTA114ES
or	405 078 2305	TR BN1A4M
Q3152	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3153	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3154	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3155	405 068 4807	TR BA1A4P
or	405 000 3806	TR DTC114YS
Q3156	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3157	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3160	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3301	405 006 4005	TR 2SA952-L
or	405 006 3909	TR 2SA952-K
Q3302	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
Q3303	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
Q3304	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3305	405 012 7502	TR 2SC2001-L
or	405 012 7403	TR 2SC2001-K
Q3306	405 012 8103	TR 2SC2003-L
or	405 137 6404	TR 2SC2003-K
Q3701	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3702	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3703	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3752	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3753	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3801	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q3802	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3803	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3852	405 075 8409	TR DTC144TS
or	405 105 7204	TR BA1L4Z
Q3853	405 000 3806	TR DTC114YS
or	405 068 4807	TR BA1A4P
Q4502	405 033 6805	TR 2SD1468S-S
or	405 021 0600	TR 2SD1012-G-SPA
Q4503	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4504	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4505	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4506	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4602	405 033 6805	TR 2SD1468S-S
or	405 021 0600	TR 2SD1012-G-SPA
Q4603	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K

Ref. No.	Part No.	Description
Q4604	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4605	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4606	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4701	405 021 0600	TR 2SD1012-G-SPA
or	405 033 6805	TR 2SD1468S-S
Q4702	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4801	405 021 0600	TR 2SD1012-G-SPA
or	405 033 6805	TR 2SD1468S-S
Q4802	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4904	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4905	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4906	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
Q4910	⚠405 077 9008	TR TIP29B
Q4914	405 078 8109	TR TIP32B
or	405 138 3907	TR KTB988-Y
Q4954	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
Q4956	405 005 2002	TR 2SA733-P
or	405 005 1906	TR 2SA733-K
Q4999	405 020 7402	TR 2SC945A-P
R4706	401 008 7204	CARBON 2.2K JB 1/2W
R4711	401 010 5601	CARBON 5.6 JB 1/2W
R4715	⚠402 045 5307	RESISTOR 0.1 J- 2W
R4721	401 009 5506	CARBON 330 JB 1/2W
R4806	401 008 7204	CARBON 2.2K JB 1/2W
R4811	401 010 5601	CARBON 5.6 JB 1/2W
R4815	⚠402 045 5307	RESISTOR 0.1 J- 2W
R4821	401 009 5506	CARBON 330 JB 1/2W
R4915	⚠402 071 7207	FUSIBLE RES 100 JA 1/4W
R4918	⚠402 071 7207	FUSIBLE RES 100 JA 1/4W
R4941	⚠402 072 1006	RESISTOR 47 J- 2W
R4952	⚠402 071 7207	FUSIBLE RES 100 JA 1/4W
R4968	⚠402 071 0307	FUSIBLE RES 10 JA 1/4W
RY450	614 224 4531	RELAY
RY451	614 224 4531	RELAY
S4900	614 215 9828	SWITCH,TACT,RESET
S4901	614 244 8335	SWITCH,SLIDE, PHONO/VIDEO
T2301	614 255 8119	FILTER,LC
U2101	614 252 1038	TUNER,FM
VR371	614 250 7247	POTENTIOMETER,10K
VR372	614 250 7247	POTENTIOMETER,10K
VR373	614 250 7247	POTENTIOMETER,10K
VR374	614 250 7285	POTENTIOMETER,100K
VR381	614 250 7247	POTENTIOMETER,10K
VR382	614 250 7247	POTENTIOMETER,10K
VR383	614 250 7247	POTENTIOMETER,10K
VR384	614 250 7285	POTENTIOMETER,100K
VR401	645 007 8897	VR,ROTARY 100KBX2
X2301	645 009 5832	OSC,CERAMIC 456KHZ
X2451	614 229 2457	CRYSTAL,7.2MHZ
or	614 204 0317	CRYSTAL,7.2MHZ
or	614 240 1118	RESONATOR,7.2MHZ
or	645 010 9720	OSC,CRYSTAL 7.2MHZ

Ref. No.	Part No.	Description
XF221	614 240 2917	FILTER,CERAMIC,FM
or	614 254 3214	FILTER,FM
XF222	614 240 2917	FILTER,CERAMIC,FM
or	614 254 3214	FILTER,FM
XF231	614 246 0849	FILTER,AM
XF232	645 009 5856	DISCR,CERAMIC,FM

POWER TRANSFORMER, PRIMARY P.W.BOARD ASSY

Ref. No.	Part No.	Description
82	614 280 7422	ASSY,PWB,POWER TRANCEFORMER,PRIMARY
CN490	614 017 8203	TERMINAL BOARD
CN491	614 017 8203	TERMINAL BOARD
FPC07	645 006 4760	HOLDER,FUSE
FPC08	645 006 4760	HOLDER,FUSE
L4900	⚠614 229 0439	INDUCTOR,FERITE
	614 051 9785	LUG

POWER TRANSFORMER, SECONDARY P.W.BOARD ASSY

Ref. No.	Part No.	Description
83	614 280 6678	ASSY,PWB,POWER TRANSFORMER,SECONDARY
CN459	614 020 1222	SOCKET,3P
CN460	614 020 1222	SOCKET,3P
CN461	645 009 6433	PLUG,3P
or	645 005 8226	PLUG,3P
D4920	407 063 9504	ZENER DIODE MTZJ8.2B
D4926	407 012 4406	DIODE 1SS133
D4927	407 012 4406	DIODE 1SS133
D4928	407 099 9905	ZENER DIODE MTZJ33B
R4934	⚠402 071 0307	FUSIBLE RES 10 JA 1/4W

REGULATOR (A) P.W.BOARD ASSY

Ref. No.	Part No.	Description
84	614 280 6685	ASSY,PWB,REGULATOR(A)
CN470	614 020 6586	SOCKET,6P
D4912	407 099 3309	ZENER DIODE MTZJ13C
Q4901	⚠405 035 7107	TR 2SD1913-R
or	⚠405 035 7206	TR 2SD1913-S
Q4912	405 131 8206	TR DTC115ES
Q4915	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q4916	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K

REGULATOR (B) P.W.BOARD ASSY

Ref. No.	Part No.	Description
85	614 280 6692	ASSY,PWB,REGULATOR(B)
IC490	409 027 1005	IC L780S12

PARTS LIST

CD P.W.BOARD ASSY

Ref. No.	Part No.	Description
86	614 282 1381	ASSY,PWB,CD
C1153	403 058 5209	POLYESTER 0.15U K 50V
CN101	645 005 8110	PLUG,4P
or	645 007 0075	PLUG,4P
CN111	645 010 1472	SOCKET,FPC 13P,CD PICKUP
CN113	645 007 0099	PLUG,6P
or	645 005 8127	PLUG,6P
CN114	645 012 2736	SOCKET,DIP 8P
or	645 012 7847	SOCKET,DIP 8P
CN115	614 035 4935	SOCKET,DIP 4P
or	645 012 7809	SOCKET,DIP 4P
CN124	614 276 3643	ASSY,WIRE,8P,CD-CD MECHANISM
CN125	614 276 3636	ASSY,WIRE,4P,CD-CD MECHANISM
CN131	645 009 0158	SOCKET,14P
CN132	645 009 0134	SOCKET,10P
D1350	407 012 4406	DIODE 1SS133
D1351	407 127 3905	ZENER DIODE MTZJ5.6B
D1361	407 099 5105	ZENER DIODE MTZJ4.7B
D1370	407 012 4406	DIODE 1SS133
D1371	407 099 4504	ZENER DIODE MTZJ3.9A
D1601	⚠407 012 0309	DIODE 1N4003
or	⚠408 031 1209	DIODE 1N4003
D1602	⚠407 012 0309	DIODE 1N4003
or	⚠408 031 1209	DIODE 1N4003
D1603	⚠407 012 0309	DIODE 1N4003
or	⚠408 031 1209	DIODE 1N4003
IC101	409 327 3402	IC CXA1782BQ
IC102	⚠409 317 8509	IC BA6398FP
IC104	409 322 2707	IC CXD2518Q
IC106	409 039 7408	IC NJM4558D
or	409 018 4305	IC LA6458D
IC131	⚠409 127 1400	IC LB1648
IC132	⚠409 114 4803	IC LB1641
L1401	645 001 4550	INDUCTOR,10U K
PR161	⚠645 019 2791	PROTECTOR, 0.75A, 125V
Q1101	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
Q1102	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
Q1201	⚠405 078 8109	TR TIP32B
or	⚠405 138 3907	TR KTB988-Y
Q1202	405 008 7301	TR 2SB810-F
or	405 008 7202	TR 2SB810-E
Q1211	405 000 3806	TR DTC114YS
Q1321	405 011 8609	TR 2SC1740S-S
or	405 011 8500	TR 2SC1740S-R
Q1351	405 000 0508	TR DTA114ES
Q1361	405 000 0508	TR DTA114ES
Q1371	405 000 0508	TR DTA114ES
R1350	⚠402 048 1603	RESISTOR 10 J- 1W
R1371	⚠402 048 1603	RESISTOR 10 J- 1W
T1001	614 234 1728	TERMINAL
VR101	645 003 5661	VR,SEMI,100K N
X1401	614 259 2137	RESONATOR,CERAMIC,33.86MHZ
or	614 254 6932	RESONATOR,CERAMIC,33.86MHZ

LED P.W.BOARD ASSY

Ref. No.	Part No.	Description
88	614 280 7415	ASSY,PWB,LED
CN283	614 278 2309	ASSY,CONNECTOR-S,LED LEAD
D2821	407 173 8305	LED SLP-335C-51,GREEN
D2822	407 173 8305	LED SLP-335C-51,GREEN
D2823	407 153 5508	LED SLP-881A-37,RED
D2824	407 153 5508	LED SLP-881A-37,RED

FRONT P.W.BOARD ASSY

Ref. No.	Part No.	Description
90	614 280 7408	ASSY,PWB,FRONT
BR261	614 273 2120	HOLDER,MOUNT,FL_MOUNT
C2691	403 262 8607	DL-ELECT 0.047 F Z 5.5V
C4009	403 061 9607	POLESTER 0.047U J 50V
C4010	403 058 2406	POLYESTER 0.015U J 50V
C4011	403 058 2406	POLYESTER 0.015U J 50V
C4013	403 062 1105	POLYESTER 0.047U M 50V
CN227	614 276 3674	ASSY,WIRE
CN261	645 009 0073	PLUG,14P,FRONT-CD
CN262	645 009 0059	PLUG,10P,FRONT-CD
CN263	614 226 9978	PLUG,10P,FRONT-SIDE
CN264	614 226 9978	PLUG,10PFRONT-SIDE
CN265	614 226 9930	PLUG,6P,FRONT-SIDE
CN266	614 226 9930	PLUG,6P,FRONT-SIDE
CN267	614 035 4928	SOCKET,DIP 3P,FRONT-PT2
or	645 012 7793	SOCKET,DIP 3P,FRONT-PT2
CN311	645 012 2743	SOCKET,DIP 9P,FRONT-TAPE A
or	645 012 7854	SOCKET,DIP 9P,FRONT-TAPE A
CN312	614 020 6562	SOCKET,4P,FRONT-DECK_MOTOR
CN313	614 035 5000	SOCKET,DIP 11P,FRONT-DECK B
or	645 012 7878	SOCKET,DIP 11P,FRONT-DECK B
CN321	614 276 3605	ASSY,WIRE,FRONT-DECK_A
CN323	614 276 3612	ASSY,WIRE,FRONT-DECK_B
D2601	407 012 4406	DIODE 1SS133
D2602	407 012 4406	DIODE 1SS133
D2603	407 012 4406	DIODE 1SS133
D2604	407 012 4406	DIODE 1SS133
D2610	407 099 4603	ZENER DIODE MTZJ3.9B
D2611	407 012 4406	DIODE 1SS133
D2620	408 024 5207	LED SLZ-781C-22-AB-T2
D2621	408 024 5207	LED SLZ-781C-22-AB-T2
D2622	408 024 5306	LED SLZ-981B-22-AB-T2
D2623	408 024 5207	LED SLZ-781C-22-AB-T2
D2624	408 024 5207	LED SLZ-781C-22-AB-T2
D2625	408 024 5306	LED SLZ-981B-22-AB-T2
D2626	408 024 5207	LED SLZ-781C-22-AB-T2
D2627	408 024 5207	LED SLZ-781C-22-AB-T2
D2628	408 024 5306	LED SLZ-981B-22-AB-T2
D2629	408 024 5207	LED SLZ-781C-22-AB-T2
D2630	408 024 5207	LED SLZ-781C-22-AB-T2
D2631	408 024 5306	LED SLZ-981B-22-AB-T2
D2632	408 023 3105	LED SLZ-781C-09-AB-T1
D2633	408 019 4703	LED SLZ-981B-09-AB-T1
D2634	408 019 4703	LED SLZ-981B-09-AB-T1
D2641	408 019 4703	LED SLZ-981B-09-AB-T1
D2642	408 023 3105	LED SLZ-781C-09-AB-T1
D2643	408 023 3105	LED SLZ-781C-09-AB-T1
D2644	408 019 4703	LED SLZ-981B-09-AB-T1
D2645	408 023 3105	LED SLZ-781C-09-AB-T1
D2646	408 023 3105	LED SLZ-781C-09-AB-T1
D2647	408 019 4703	LED SLZ-981B-09-AB-T1
D2648	408 023 3105	LED SLZ-781C-09-AB-T1
D2649	408 023 3105	LED SLZ-781C-09-AB-T1
D2650	408 021 2209	LED SLZ-938C-19-AB-T1

Ref. No.	Part No.	Description
D2664	407 012 4406	DIODE 1SS133
D2665	407 012 4406	DIODE 1SS133
D2667	407 012 4406	DIODE 1SS133
D2668	407 012 4406	DIODE 1SS133
D2670	407 012 4406	DIODE 1SS133
D2671	407 012 4406	DIODE 1SS133
D2690	407 099 9905	ZENER DIODE MTZJ33B
FL261	645 014 5414	FLUORESCENT TUBE
IC261	410 249 2602	IC CXP82440A-125Q
or	410 249 2701	IC CXP82440A-129Q
IC262	409 346 2301	IC BU2090F
IC263	409 346 2301	IC BU2090F
L2671	645 001 4581	INDUCTOR,100U K
LUG21	614 051 9785	LUG
Q2007	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q2008	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q2601	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
Q2602	405 020 7402	TR 2SC945A-P
or	405 020 7204	TR 2SC945A-K
Q3111	405 006 3909	TR 2SA952-K
or	405 006 4005	TR 2SA952-L
Q3112	405 006 3909	TR 2SA952-K
or	405 006 4005	TR 2SA952-L
Q3121	405 004 4601	TR 2SA608-F-SPA
or	405 003 5401	TR 2SA1317-U
or	405 006 1905	TR 2SA933S-S
or	405 006 1806	TR 2SA933S-R
Q3122	405 006 3909	TR 2SA952-K
or	405 006 4005	TR 2SA952-L
Q3131	405 006 3909	TR 2SA952-K
or	405 006 4005	TR 2SA952-L
Q3132	405 006 3909	TR 2SA952-K
or	405 006 4005	TR 2SA952-L
S2600	614 240 1002	SWITCH,TACT,STOP
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2601	614 240 1002	SWITCH,TACT,PLAY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2602	614 240 1002	SWITCH,TACT,SKIP(-)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2603	614 240 1002	SWITCH,TACT,SKIP(+)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2604	614 240 1002	SWITCH,TACT,OPEN/CLOSE
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2605	614 240 1002	SWITCH,TACT,DISC 3
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2606	614 240 1002	SWITCH,TACT,DISC 2
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2607	614 240 1002	SWITCH,TACT,DISC 1
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2608	614 240 1002	SWITCH,TACT,DISC CHECK
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T

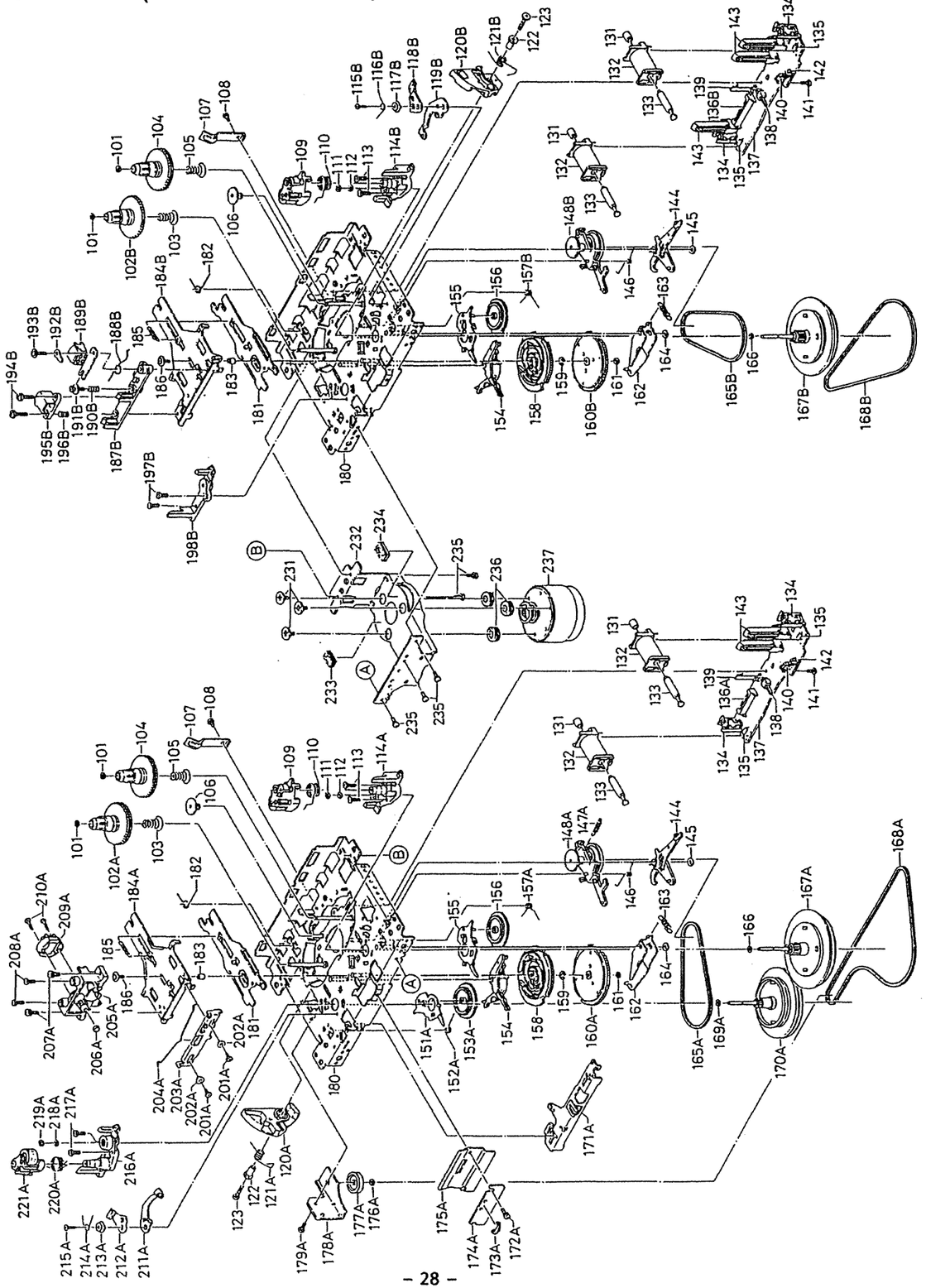
Ref. No.	Part No.	Description
S2609	614 240 1002	SWITCH,TACT,NORMAL
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2611	614 240 1002	SWITCH,TACT,MEMORY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2612	614 240 1002	SWITCH,TACT,REPEAT
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2620	614 240 1002	SWITCH,TACT,STANDBY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2621	614 240 1002	SWITCH,TACT,EDIT
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2622	614 240 1002	SWITCH,TACT,TUN(-)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2623	614 240 1002	SWITCH,TACT,TUN(+)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2624	614 240 1002	SWITCH,TACT,FM MODE
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2625	614 240 1002	SWITCH,TACT,BAND
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2626	614 240 1002	SWITCH,TACT,PRESET(-)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2627	614 240 1002	SWITCH,TACT,PRESET(+)
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2628	614 240 1002	SWITCH,TACT,BASS
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2629	614 240 1002	SWITCH,TACT,FUNCTION
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2631	614 240 1002	SWITCH,TACT,SOUND PRESET
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2632	614 240 1002	SWITCH,TACT,DISPLAY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2640	614 240 1002	SWITCH,TACT,DOLBY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2641	614 240 1002	SWITCH,TACT,REC MUTE
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2642	614 240 1002	SWITCH,TACT,REC PAUSE
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2643	614 240 1002	SWITCH,TACT,FF
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2644	614 240 1002	SWITCH,TACT,FWD PLAY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2645	614 240 1002	SWITCH,TACT,STOP
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T

Ref. No.	Part No.	Description
S2646	614 240 1002	SWITCH,TACT,REV PLAY
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2647	614 240 1002	SWITCH,TACT,REW
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2648	614 240 1002	SWITCH,TACT,A/B
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
S2649	614 240 1002	SWITCH,TACT,REV MODE
or	614 220 5471	SWITCH,TACT
or	645 006 5958	SWITCH,PUSH,1P-1T
SE261	407 159 0309	PHOTO DIODE SPS-424-1
VR311	614 250 7230	POTENTIOMETER,5K
or	645 006 2476	VR,SEMI,5K N
VR402	614 275 5327	VR,ROTARY,100K,BALANCE
VR403	645 013 7679	VR,ROTARY 50KBX2,SPEED
X2601	614 215 5561	RESONATOR,CERAMIC, 3P,4.19MHZ
X2602	614 219 7936	RESONATOR,XTAL,32.768HZ

SPEAKER BOX (SX-F280L/XE,SX-F280R/XE) (only XE)

Ref. No.	Part No.	Description
	645 013 9406	CUSHION (TOP) (1/2)
	645 013 9413	CUSHION (BOTTOM) (1/2)
	614 282 2401	SHEET,SPEAKER (L)
	645 013 9437	SHEET,SPEAKER (R)
	614 278 2217	LABEL
	614 278 2224	LABEL
	645 016 0110	ASSY GRILLE,SPEAKER
	614 282 2418	POLY COVER

EXPLODED VIEW (TAPE MECHANISM)



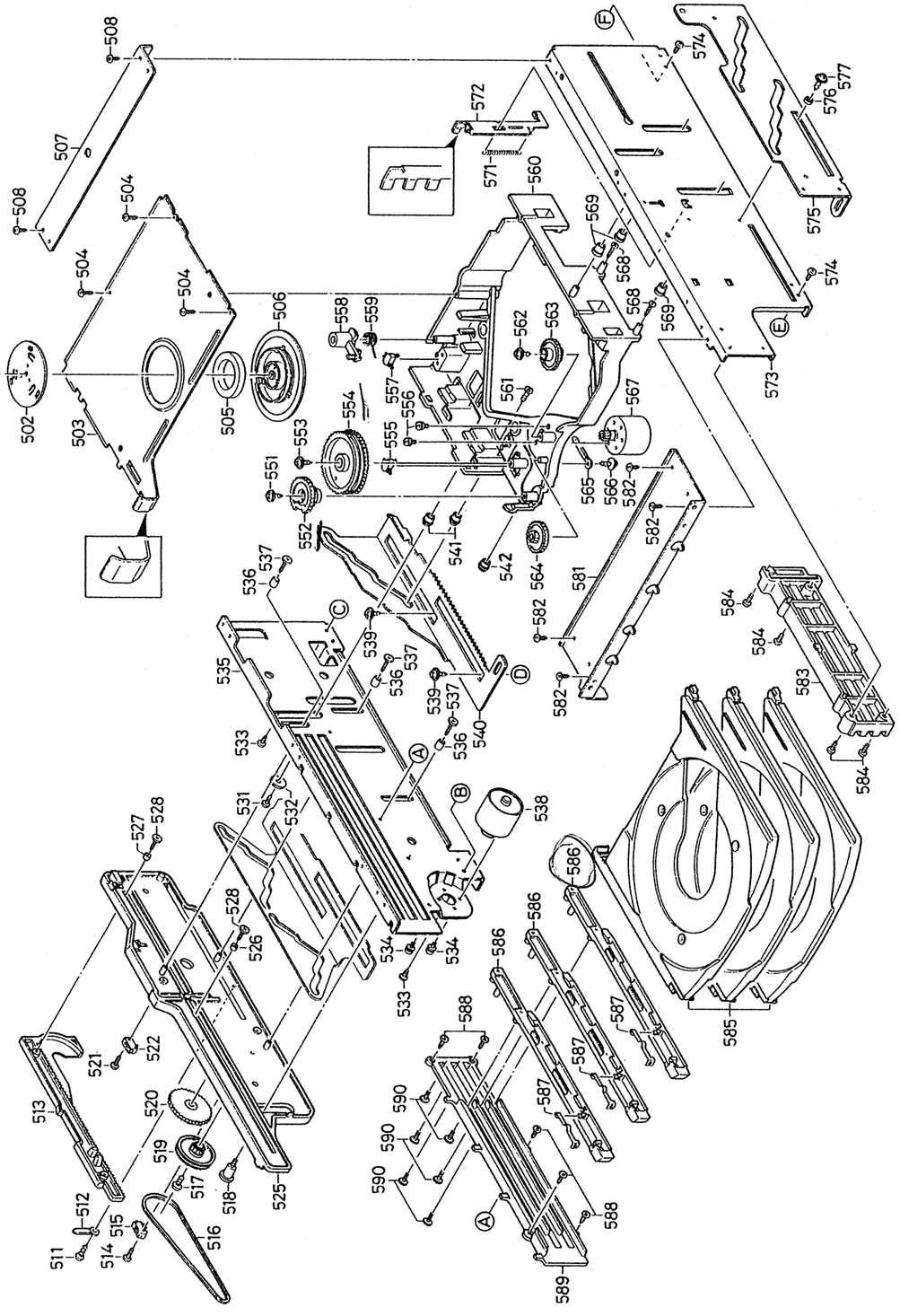
PARTS LIST

TAPE MECHANISM (TM-J18TN-SP)

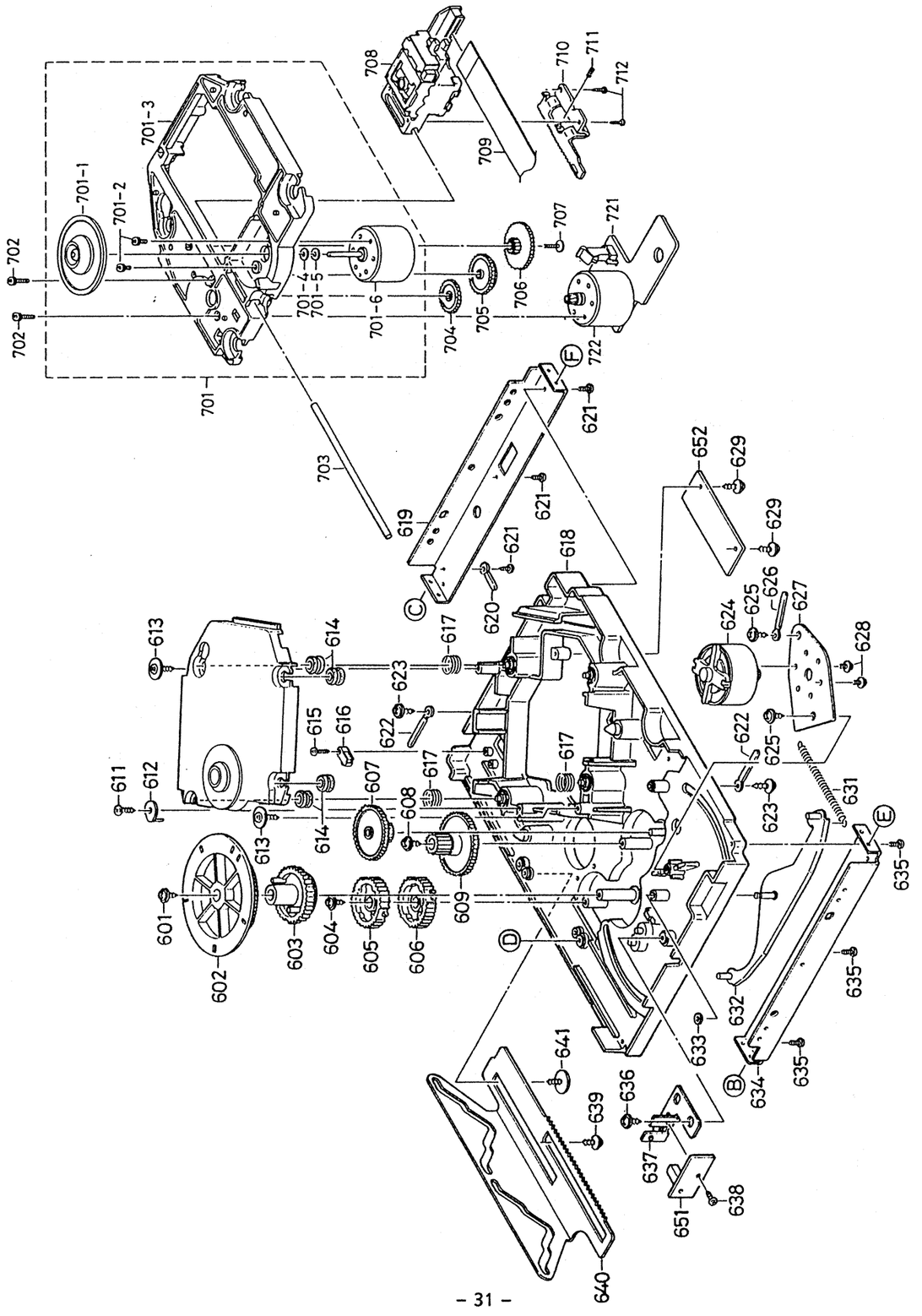
Ref. No.	Part No.	Description
101	645 009 7072	HL WASHER CUT 1.4X3.1X0.5MM
102A	645 012 1623	ASSY,TAKE-UP REEL(R)
102B	645 014 6640	ASSY,TAKE-UP REEL(R)
103	645 012 1593	BT SPRING,BACK TENSION
104	645 012 1616	ASSY,TAKE-UP REEL(F)
105	645 012 1609	BT SPRING(F),BACK TENSION
106	645 012 1555	FF GEAR
107	645 012 1449	PACK SPRING
108	645 012 2774	C TAPP M2X3 SPECIAL
109	645 012 1524	ASSY,PINCH ROLLER ARM(F)
110	645 012 1395	P ARM(F)SPRING
111	645 009 7768	HL WASHER 2.3X3.8X0.13MM
112	645 012 1951	HL WASHER CUT 1.8X4X0.5MM
113	645 012 1906	C TAPP SCREW M2X5
114A	645 012 1685	ASSY,FL METAL(F)
114B	645 014 6688	FL METAL(F)ASSY
115B	645 009 7713	CAMERA S TAP SCREW G 2X6MM
116B	645 009 7676	E STOPPER SPRING(F)
117B	645 009 8017	E STOPPER COLLAR
118B	645 009 7690	E STOPPER A(F)S
119B	645 009 7638	E STOPPER B(F)
120A	645 009 7621	LOCK LEVER
120B	645 009 7652	LOCK LEVER(R)
121A	645 009 7669	E LEVER SPRING(F)
121B	645 009 7645	E LEVER SPRING(R)
122	645 012 1746	LOCK LEVER COLLAR
123	645 009 7706	C TAP BIND SCREW 2.3X10MM
131	645 012 1425	PLUNGER HOLDER
132	645 013 6238	SOLENOID
133	645 012 1418	PLUNGER
134	645 012 1845	P BASE STUD
135	645 013 6269	DIODE,DSF10C
136A	645 013 6245	CONNECTOR 9P
136B	645 013 6252	CONNECTOR 11P
137	645 012 1821	P BASE,P.W.BOARD
138	645 012 1852	LEAF SWITCH,F.FWD/REW
139	645 012 1869	LEAF SWITCH,PLAY
140	645 013 6276	HALL IC LB9051A
141	645 009 2312	C TAP SCREW M2X4
142	645 012 1838	IC PROTECTOR
143	645 011 1631	LEAF SWITCH,PACK/CRO2/ UN-REC
144	645 012 1562	RF TRIGGER ARM
145	645 012 1937	HL WASHER CUT 2.1X5X0.4MM
146	645 012 1814	TRIGGER ARM SPRING
147A	645 012 1654	RF PULLEY ARM SPRING
148A	645 012 1678	ASSY,RF CLUTCH
148B	645 014 6664	ASSY,RF CLUTCH
151A	645 012 1647	ASSY,T GEAR ARM(R)
152A	645 012 1586	TG ARM(R)SPRING
153A	645 012 1548	T GEAR
154	645 012 1777	M TRIGGER ARM
155	645 012 1630	ASSY,T GEAR ARM(F)
156	645 012 1548	T GEAR
157A	645 012 1579	TG ARM(F)SPRING
157B	645 009 6969	TG ARM(F) SPRING
158	645 012 1760	M GEAR
159	645 012 1876	E RING 2MM
160A	645 012 1791	RF CAM GEAR
160B	645 009 8024	RF CAM GEAR
161	645 012 1944	HLW CUT 1.55X3.5X0.5MM
162	645 012 1784	P KICK LEVER
163	645 012 1432	PK LEVER SPRING
164	645 012 1937	HL WASHER CUT 2.1X5X0.4MM
165A	645 012 1661	RF BELT
165B	645 009 6976	RF BELT

Ref. No.	Part No.	Description
166	645 009 7744	NYLON WASHER 2.1X3.5X0.5MM
167A	645 013 6214	ASSY,FLYWHEEL(F)
167B	645 014 6695	FLYWHEEL(F)ASSY
168A	645 009 6990	MAIN BELT
168B	645 009 6983	MAIN BELT
169A	645 009 7751	NYLON WASHER 2.05X3.5X0.5MM
170A	645 013 6221	ASSY,FLYWHEEL(R)
171A	645 012 1753	CH SLIDE LEVER
172A	645 012 1913	S TAMP TAPP SCREW M2X5
173A	645 012 1357	WIRE CLAMP
174A	645 009 6907	RELAY BOARD
175A	645 012 1487	SHIELD PLATE
176A	645 009 7737	P WASHER CUT0.85X2.8X0.25MM
177A	645 009 7607	RELAY PULLEY
178A	645 009 7614	PULLEY BRACKET ASSY
179A	645 009 2312	C TAP SCREW M2X4
180	645 012 2514	ASSY,CHASSIS
181	645 012 1500	ASSY,HEAD PANEL(B)
182	645 012 1470	HEAD PANEL SPRING
183	645 009 8895	PANEL COLLAR
184A	645 012 1463	HEAD PANEL(A)
184B	645 009 6945	HEAD PANEL(A)
185	645 012 1371	RC SPRING
186	645 009 7720	CAMERA S TAP SCREW G 2X5MM
187B	645 009 6952	HEAD BASE
188B	645 009 6914	PINCH ROLLER SPRING
189B	614 208 4052	HEAD,R/P
190B	645 009 1551	AZIMUTH SPRING
191B	645 009 7034	AZIMUTH SCREW 2X9.5MM
192B	645 010 9232	LUG PLATE
193B	645 009 7058	(+)(-)CAP SCREW 2X9.5MM
194B	645 009 7041	(+)(-)CAP SCREW 2X11MM
195B	614 021 8831	MAGNETIC HEAD,AC-E
196B	645 009 6891	E HEAD SPRING
197B	645 012 1906	C TAPP SCREW M2X5
198B	645 009 6921	TAPE GUIDE
201A	645 009 7027	CAMERA TS M SCREW 1.7X3MM
202A	645 012 1340	CHP LEVER COLLAR
203A	645 012 1388	CHP LEVER
204A	645 012 1517	PINCH ROLLER SPRING
205A	645 012 1494	ASSY,HEAD BASE
206A	645 012 1364	SPACER
207A	645 012 1890	TAMS SCREW M2X5
208A	645 012 1920	(+)(-)SCREW(SMALL)M2X6
209A	614 236 9197	HEAD,PLAY
210A	645 012 1883	HEAD COLLAR SCREW(S)
211A	645 009 7003	EJECT STOPPER B(R)
212A	645 009 7010	EJECT STOPPER A(R)S
213A	645 009 8017	EJECT STOPPER COLLAR
214A	645 009 7683	EJECT STOPPER SPRING(R)
215A	645 009 7713	CAMERA S TAP SCREW G 2X6MM
216A	645 012 1692	ASSY,FL METAL(R)
217A	645 012 1906	C TAPP SCREW M2X5
218A	645 009 7768	HL WASHER 2.3X3.8X0.13MM
219A	645 009 8031	HL WASHER 1.7X3.5X0.5MM
220A	645 012 1401	P ARM(R)SPRING
221A	645 012 1531	ASSY,PINCH ROLLER ARM(R)
231	645 009 3814	MOTOR COLLAR SCREW
232	645 013 6184	MOTOR BRACKET
233	645 013 6368	MAT
234	645 009 2398	ANTI VIBRATION FELT MAT
235	645 009 7065	(+)C TAPPING SCREW 2X5MM
236	645 009 1582	MOTOR RUBBER
237	614 275 3279	MOTOR ASSY

EXPLODED VIEW (CD CHANGER MECHANISM)



EXPLODED VIEW (CD CHANGER & BASE MECHANISM)



CD CHANGER MECHANISM (PM-CDCH31/SP)

Ref. No.	Part No.	Description
501	411 022 7500	SCR S-TPG PAN 2X4MM, CHUCK PULLEY FIX
502	614 266 8061	HOLDER,CHUCK PLATE PULLEY
503	614 279 6016	HOLDER,CHUCK BRACKET
504	411 022 7807	SCR S-TPG PAN 2X6MM, CHUCK BRACKET FIX
505	645 009 9809	MAGNET CHUCK,CHUCKING
506	614 272 1674	ASSY,PULLEY,CHUCK
507	614 266 1918	JOINT,B-TOP ENCOURAGER
508	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX
511	411 021 0809	SCR S-TPG BIN 2X6MM,LUG FIX
512	614 129 9341	LUG,OPEN/CLOSE SWITCH LOAD
513	614 266 1833	GEAR,OPEN/CLOSE RACK
514	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX
515	645 010 6491	SWITCH,LEVER,OPEN END
516	614 277 6896	BELT,SQUARE,OPEN/CLOSE
517	411 021 2704	SCR S-TPG BIN 2.6X6MM, PULLEY FIX
518	412 004 5705	SPECIAL SCREW,GEAR BLOCK FIX
519	614 277 7312	PULLEY,OPEN/CLOSE IDLER PULLEY
520	614 266 1826	GEAR,OPEN/CLODE IDLER
521	411 021 1202	SCR S-TPG BIN 2X8MM, OPEN/CLOSE SW FIX
522	645 010 6491	SWITCH,LEVER,CLOSE END
525	614 266 1970	MOUNTING,GEAR BLOCK BRACKET
526	614 273 5992	PIPE,GEAR RACK GUIDE(F)
527	614 270 2222	PIPE,GEAR RACK GUIDE(R)
528	412 054 6202	SPECIAL SCREW,2X7.5MM, GEAR RACK FIX
531	411 022 7807	SCR S-TPG PAN 2X6MM, TRAY HOLDER
532	411 091 9702	WASHER V 2X8X0.5MM
533	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX
534	411 044 7007	SCR PAN+SW 2X3MM, OPEN/CLOSE MOTOR FIX
535	614 266 1949	MOUNTING,LEFT SIDE BRACKET
536	614 268 0476	PIPE,OPEN/CLOSE BRAKET GUIDE
537	412 054 6202	SPECIAL SCREW,2X7.5MM, MOUNTING FIX
538	645 009 1186	ASSY,MOTOR,OPEN/COLSE
539	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,SLIDE FIX
540	614 266 1994	SLIDE,TRAY HOLDER
541	614 277 9460	PIPE,TRAY HOLDER GUIDE
542	614 268 0469	PIPE,TRAY HOLDER GUIDE (R)
551	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
552	614 266 1819	GEAR,LOAD/UNLOAD DRIVE
553	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
554	614 266 1802	GEAR,LOAD/UNLOAD CAM
555	614 214 9379	SWITCH,UNLOAD END
556	411 044 7205	SCR PAN+SW 2X4MM, LOAD/UNLOAD MTR FIX
557	614 214 9379	SWITCH,LOAD END
558	614 266 1932	LEVER,LOCK
559	614 268 0186	SPRING,WIRE, LOAD/UN-LOAD LOCK LEVER
560	614 266 1963	MOUNTING,TRAY HOLDER
561	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER
562	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
563	614 266 8030	GEAR,LOAD/UNLOAD IDLER1
564	614 266 1796	GEAR,LOAD/UNLOAD IDLER2
565	614 129 9136	LUG,LEAD MTG.
566	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX
567	645 009 1193	ASSY,MOTOR,LOAD/UNLOAD
568	411 022 8408	SCR S-TPG PAN 2X8MM, TRAY HOLDER
569	614 268 0469	PIPE,TRAY HOLDER GUIDE
571	614 268 0162	SPRING,TENSION,STOPPER PULL
572	614 279 0595	STOPPER,DISC STOPPER
573	614 266 1956	MOUNTING,RIGHT SIDE BRAKET
574	411 028 2905	SCR S-TPG PAN 2X4MM, MOUNTING FIX
575	614 268 2906	ASSY,SLIDE,RIGHT
576	614 270 2239	PIPE,RIGHT SLIDE GUIDE
577	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, RIGHT SLIDE FIX
581	614 266 1901	JOINT,F-TOP ENCOURAGER
582	411 028 2905	SCR S-TPG PAN 2X4MM, JOINT FIX
583	614 266 1864	HOLDER,RIGHT,TRAY GUIDE
584	411 028 3100	SCR S-TPG PAN 2X6MM, HOLDER FIX
585	614 282 9127	TRAY ASSY
586	614 266 1871	HOLDER,TRAY GUIDE
587	614 266 8924	SPRING,PLATE,TRAY HOLD
588	411 028 2905	SCR S-TPG PAN 2X4MM, HOLDER FIX
589	614 266 1857	HOLDER,LEFT,TRAY GUIDE
590	412 054 6202	SPECIAL SCREW 2X7.5MM, HOLDER FIX
601	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
602	614 266 1758	GEAR,UP/DOWN CAM (1)
603	614 266 1765	GEAR,UP/DOWN CAM (2)
604	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
605	614 266 1772	GEAR,UP/DOWN DRIVE (1)
606	614 266 1789	GEAR,UP/DOWN DRIVE (2)
607	614 266 1734	GEAR,UP/DOWN IDLER 1
608	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, GEAR FIX
609	614 266 1741	GEAR,UP/DOWN IDLER 2
611	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,HOLDER FIX
612	614 267 6998	HOLDER,BASE MECHANISM FIX
613	614 279 1202	SPECIAL SCREW,BLACK, BASE MECHANISM FIX
614	614 237 7031	CUSHION,RUBBER,FLOATING
or	614 277 1952	CUSHION,RUBBER,FROATING
615	411 021 1202	SCR S-TPG BIN 2X8MM, PLAY SW FIX
616	645 010 6491	SWITCH,LEVER,PLAY
617	614 247 4907	SPRING,COMP,FLOATING
618	614 266 1727	CHASSIS,BOTTOM CHASSIS
619	614 266 1888	JOINT,BOTTOM BACK
620	614 129 9341	LUG,OPEN/CLOSE SWITCH LEAD

Ref. No.	Part No.	Description
621	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
622	614 129 9136	LUG,LOAD/UN-LOAD SWITCH LEAD
623	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, LUG FIX
624	614 268 2890	ASSY,MOTOR,UP/DOWN
625	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, BRACKET MOTOR FIX
626	614 129 9136	LUG,SENSOR LEAD
627	614 266 8054	HOLDER,BRACKET MOTOR
628	411 102 6300	SCR PAN-FLG 2.6X2.8MM, UP/DOUN MOTOR FIX
629	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM,CHUKEI PWB FIX
631	614 268 0155	SPRING,TENSION, SYNCRO LEVER PULL
632	614 268 2883	ASSY,LEVER,SYNCRO
633	614 127 1576	WASHER,LEVER ASSY FIX
634	614 272 6600	JOINT,BOTTOM FRONT
635	411 022 7807	SCR S-TPG PAN 2X6MM, JOINT FIX
636	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, SENSOR BK FIX
637	614 266 9907	HOLDER,SENSOR BRACKET
638	411 028 2905	SCR S-TPG PAN 2X4MM, SENSOR PWB FIX
639	411 098 8807	SCR S-TPG BRZ+FLG 3X6MM, SLIDE FIX
640	614 266 2007	SLIDE,TRAY SLISE
641	412 005 2307	SPECIAL SCREW,3X10MM (WITH WASHER 3X14X1MM)
	614 269 6026	ASSY,WIRE,5P,SENSOR, UP/DOWN MOTOR
	614 269 6033	ASSY,WIRE,6P, LOAD/UNLOAD/PLAY SWITCH
	614 269 6040	ASSY,WIRE,4P, LOAD/UNLOAD,UP/DOWN MOTOR
	614 269 6057	ASSY,WIRE,4P, OPEN/CLOSE SWITCH

CD SENSOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
651	614 270 1928	ASSY,PWB,SENSOR
D191	407 177 6109	PHOTO COUPLE GP1A53E

CD CONNECTOR P.W.BOARD ASSY

Ref. No.	Part No.	Description
652	614 267 6646	ASSY,PWB CD,CONNECTOR, CHANGER
CN191	645 006 0915	PLUG,4P,LOAD/UNLOAD SWITCH
or	645 009 6440	PLUG,4P,LOAD/UNLOAD SWITCH
CN192	645 004 2706	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR
or	645 014 9825	PLUG,4P,LOAD/UNLOAD,UP/DOWN MOTOR

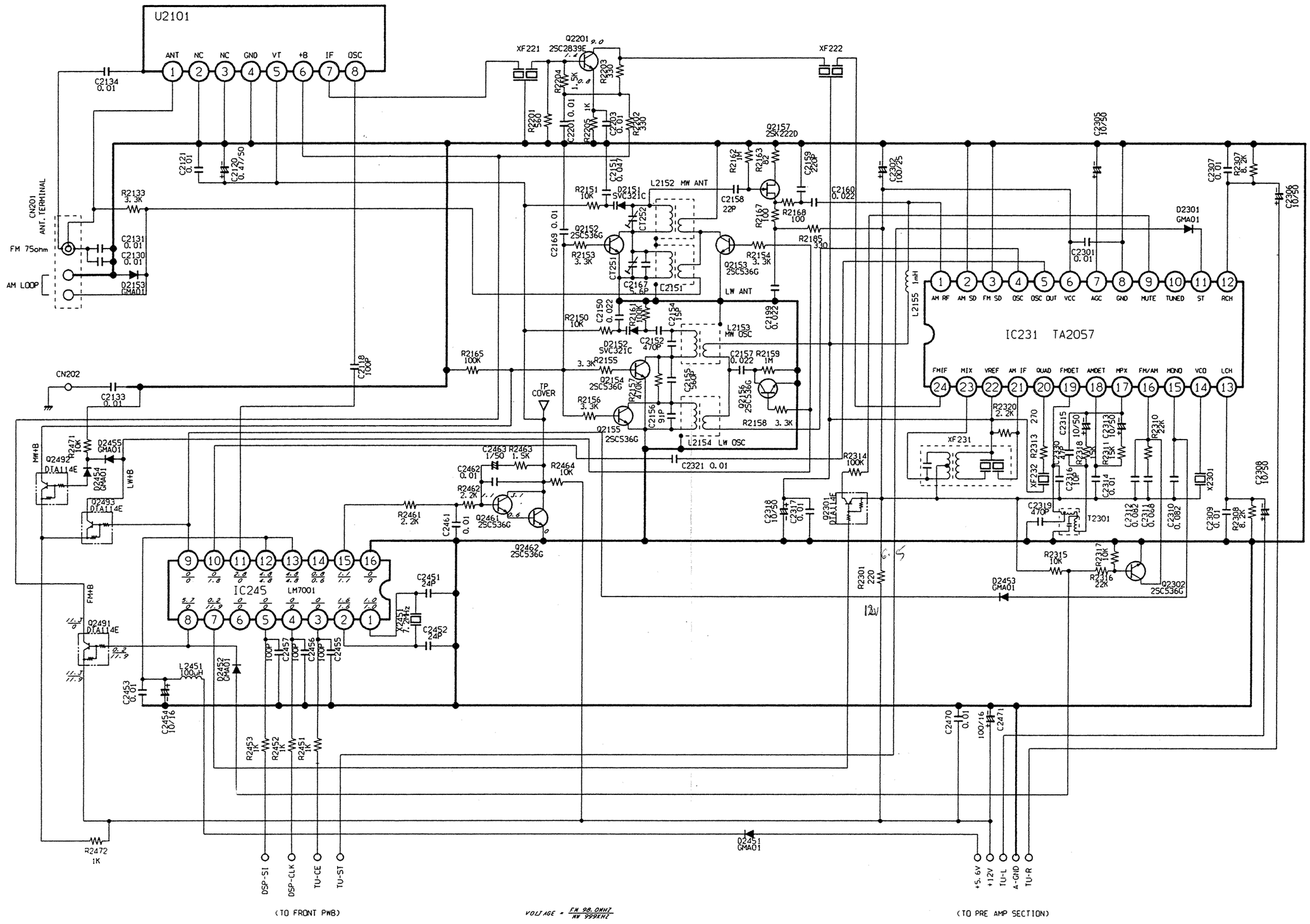
Ref. No.	Part No.	Description
CN193	645 006 0939	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
or	645 009 6464	PLUG,6P,OPEN/CLOSE/PLAY SWITCH
CN194	645 006 0922	PLUG,5P,SENSOR,UP/DOWN MOTOR
or	645 009 6457	PLUG,5P,SENSOR,UP/DOWN MOTOR
CN195	645 006 0915	PLUG,4P,CD,PWB
or	645 009 6440	PLUG,4P,CD,PWB
CN196	645 006 0953	PLUG,8P,CD,PWB
or	645 009 6488	PLUG,8P,CD,PWB

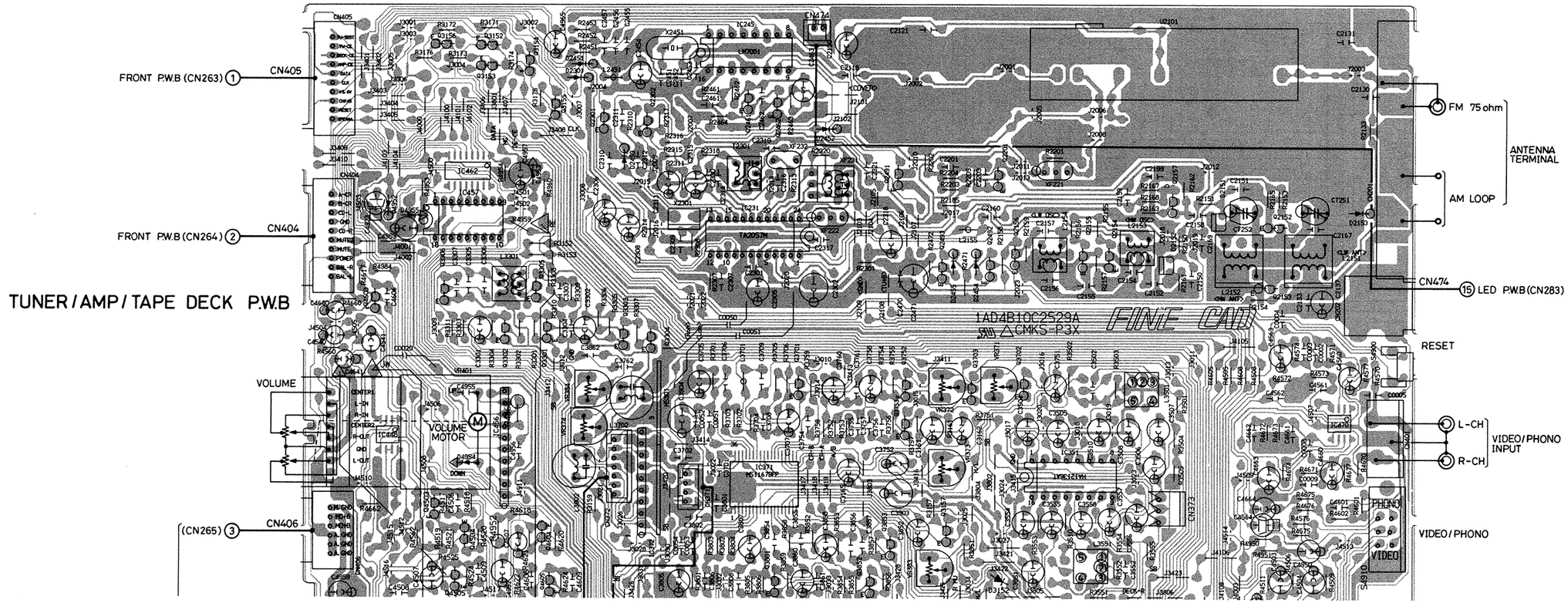
CD BASE MECHANISM (PM-CDBM94D3SP)

Ref. No.	Part No.	Description
701	614 270 2031	ASSY,CHASSIS,BASE MECHANISM
701-1	614 268 3354	ASSY,TURNTABLE,SPINDLE
701-2	411 044 7502	SCR PAN+SW 2X5MM, SPINDLE MOTOR FIX
701-3	614 262 2582	CHASSIS,BASE MECHANISM
701-4	412 032 0208	SPECIAL WASHER,1.9X5X0.3MM
701-5	412 014 5603	SPECIAL WASHER,TURNTABLE STOPPER
701-6	645 007 7821	MOTOR,CD-SPINDLE DC 0.2W, SPINDLE MOTOR
702	411 044 8004	SCR PAN+SW 2X8MM, SLED MOTOR FIX
703	614 237 7024	SHAFT,PICK-UP RAIL
or	614 277 8029	SHAFT,PICK-UP RAIL
704	614 237 7093	GEAR,SLED RETARD GEAR 1
705	614 237 7109	GEAR,SLED RETARD GEAR 2
706	614 237 7116	GEAR,SLED
707	412 054 6202	SPECIAL SCREW 2X7.5MM, SLED GEAR FIX
708	645 006 7983	PICKUP,LASER,SF-P100
709	645 009 9960	FLEXIBLE FLAT CABLE,13P, PICK-UP
710	614 262 2599	GEAR,RACK PICK-UP RACK GEAR
711	614 238 6934	SPRING,COMP,PICK-UP RACK GEAR
712	411 152 4301	SCR S-TPG PAN PCS 1.7X6MM, PICK RACK GEAR FIX
722	645 007 7814	ASSY,MOTOR CD-SLED
	614 279 3329	ASSY,CONNECTOR-S,6P, BASE MECHANISM

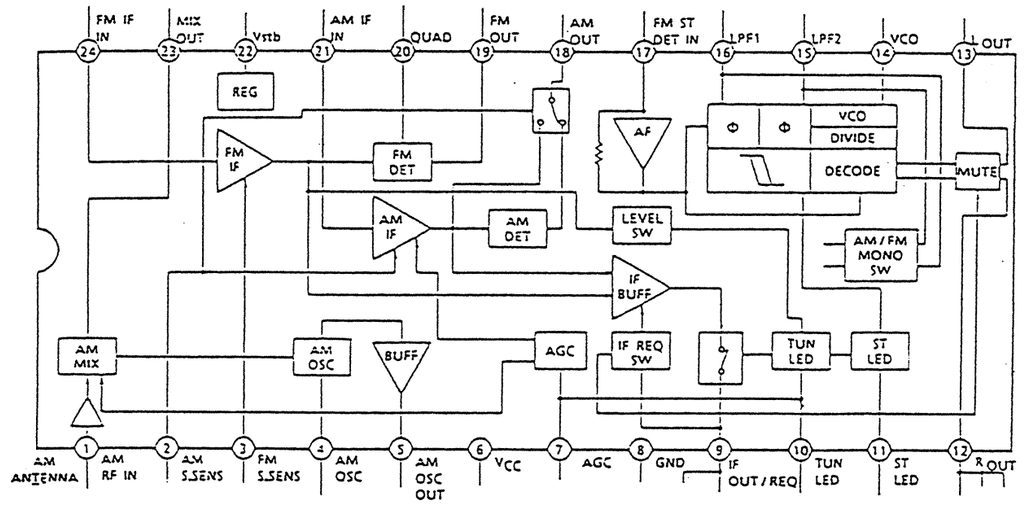
BASE MECHANISM P.W.BOARD ASSY

Ref. No.	Part No.	Description
721	614 251 6485	ASSY,PWB,MOTOR & LIMIT SWITCH
CN001	645 006 0939	PLUG,6P
or	645 009 6464	PLUG,6P
S001	645 012 5836	SWITCH,LEAF,LIMIT SWITCH

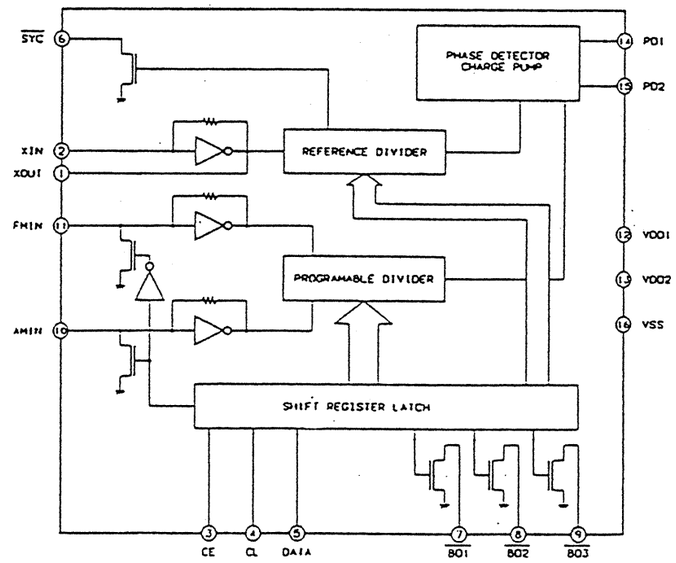

U2101
ANT NC NC GND VT +B IF OSC
CN201 ANT. TERMINAL
FM 75ohm
AM LOOP
CN202
IC231 TA2057
AM RF AM SD FM SD OSC OSC OUT VCC AGC GND MUTE TUNED ST RCH
FMIF MIX VREF AM IF QUAD FMDET AMDET MPX FM/AM MONO VCO LCH
IC245 LM7001
XF221
XF222
XF231
Q2201 2SC2839E
Q2157 2SK222D
Q2152 2SC536G
Q2153 2SC536G
Q2154 2SC536G
Q2155 2SC536G
Q2156 2SC536G
Q2461 2SC536G
Q2462 2SC536G
Q2491 DTA114E
Q2492 DTA114E
Q2493 DTA114E
Q2302 2SC536G
L2152 MW ANT
L2153 MW OSC
L2154 LW OSC
LW ANT
L2155 1mH
L2451 100uH
T2301
D2151 SVC321C
D2152 SVC321C
D2153 GMA01
D2301 GMA01
D2451 GMA01
D2452 GMA01
D2453 GMA01
D2454 GMA01
D2455 GMA01
TP COVER
MW+B
LW+B
FM+B
DSP-SI
DSP-CLK
TU-CE
TU-ST
+5.6V
+12V
TU-L
A-GND
TU-R
(TO FRONT PWB)
(TO PRE AMP SECTION)
VOLTAGE = FM 98.0MHZ / MW 999KHZ



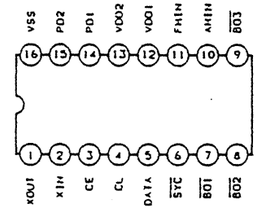
IC231 TA2057 (AM/FM IF & FM MPX)



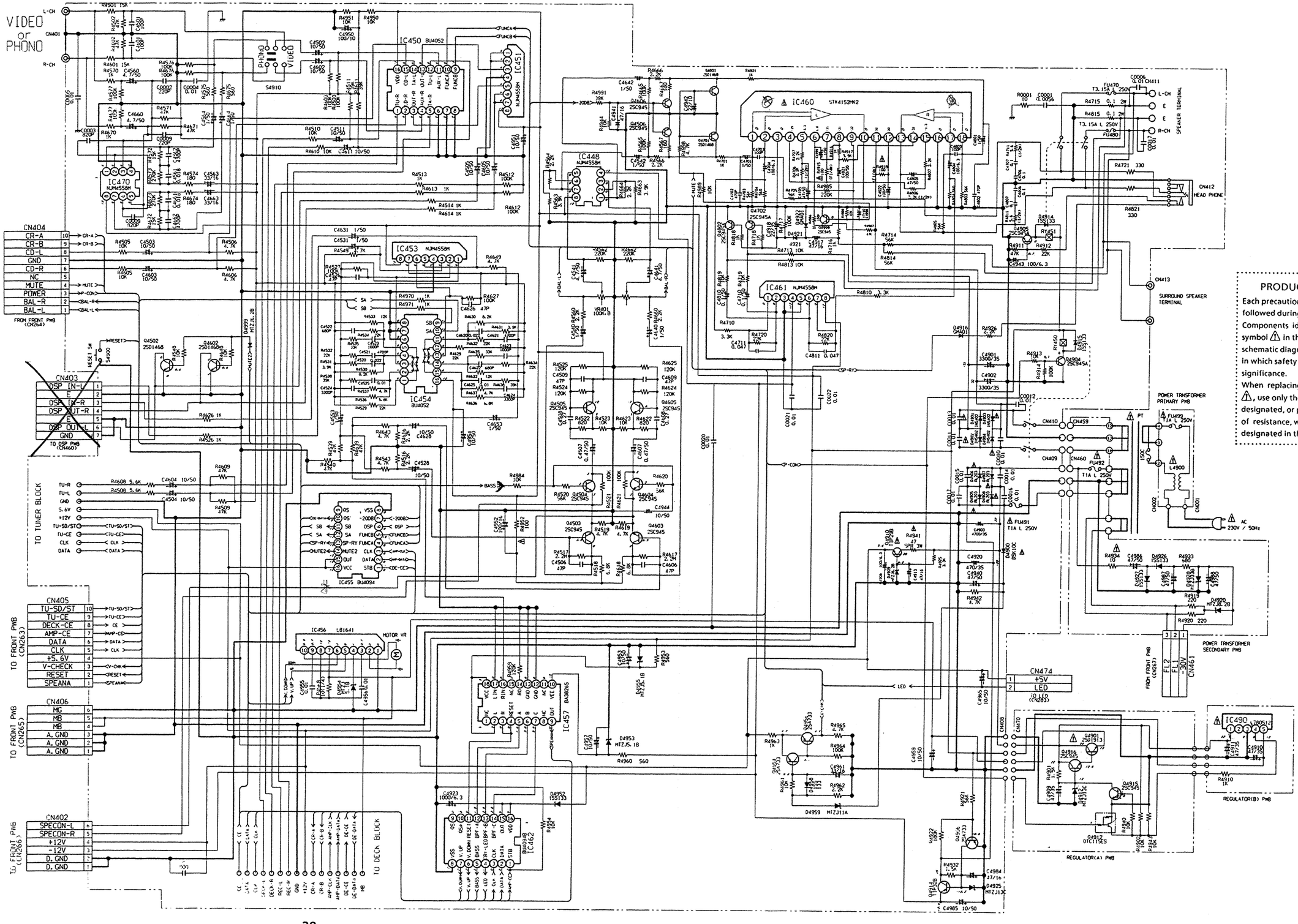
IC245 LM7001 (PLL SYNTHSIZER)



SYC : CLOCK CONTROLLER (400HZ)
XIN.XOUT : XTAL OSC (7.2MHZ)
FMIN.AMIN : LOCAL OSCILLATION SIGNAL INPUT
CD.CL.DATA : DATA INPUT
B01 B02 B03 : BAND DATA OUTPUT
VDD1 VDD2 VSS : POWER SUPPLY (VDD2 IS BACK-UP BAITERY)
PD1.PD2 : CHARGE PUMP OUTPUT

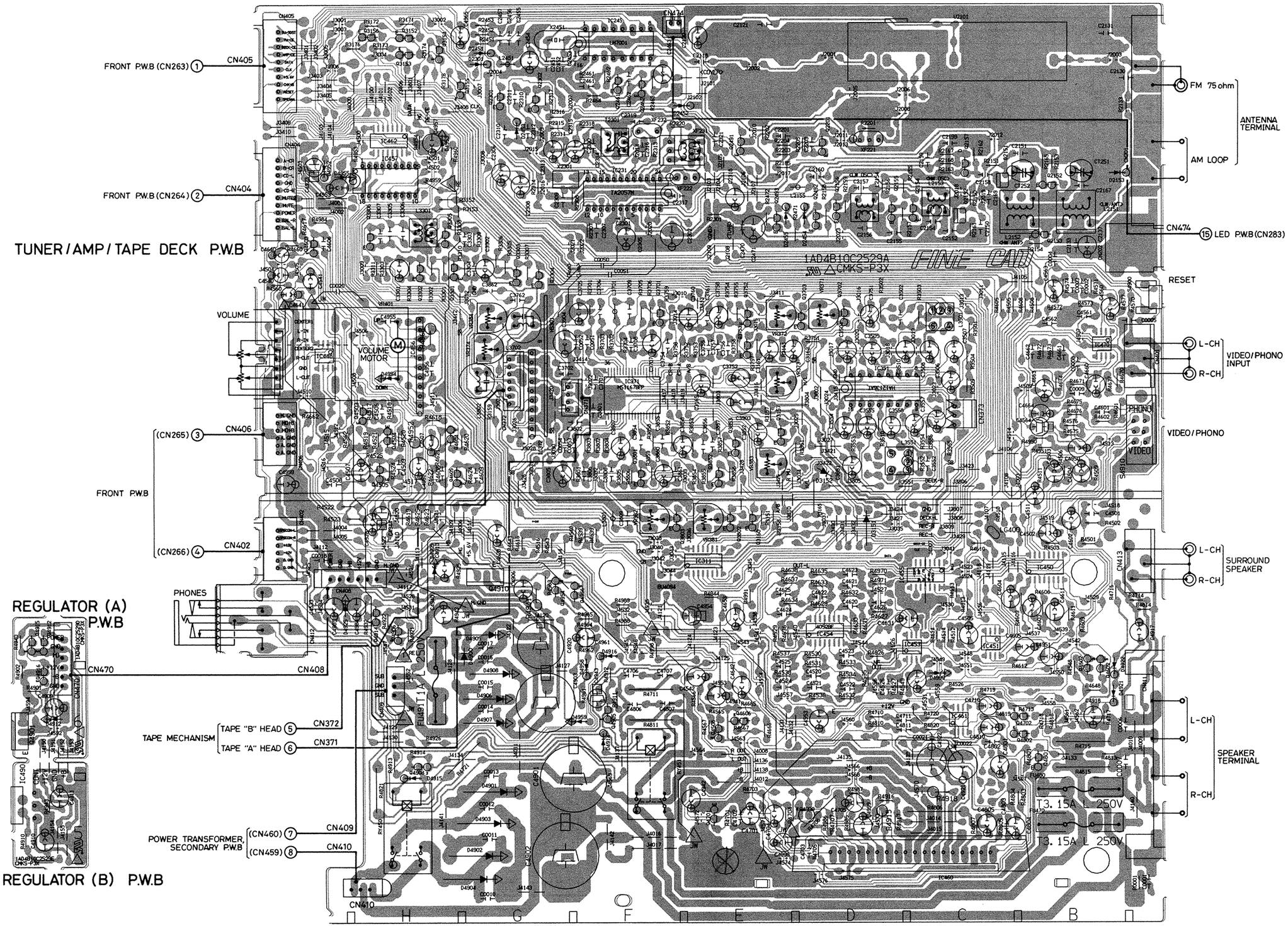


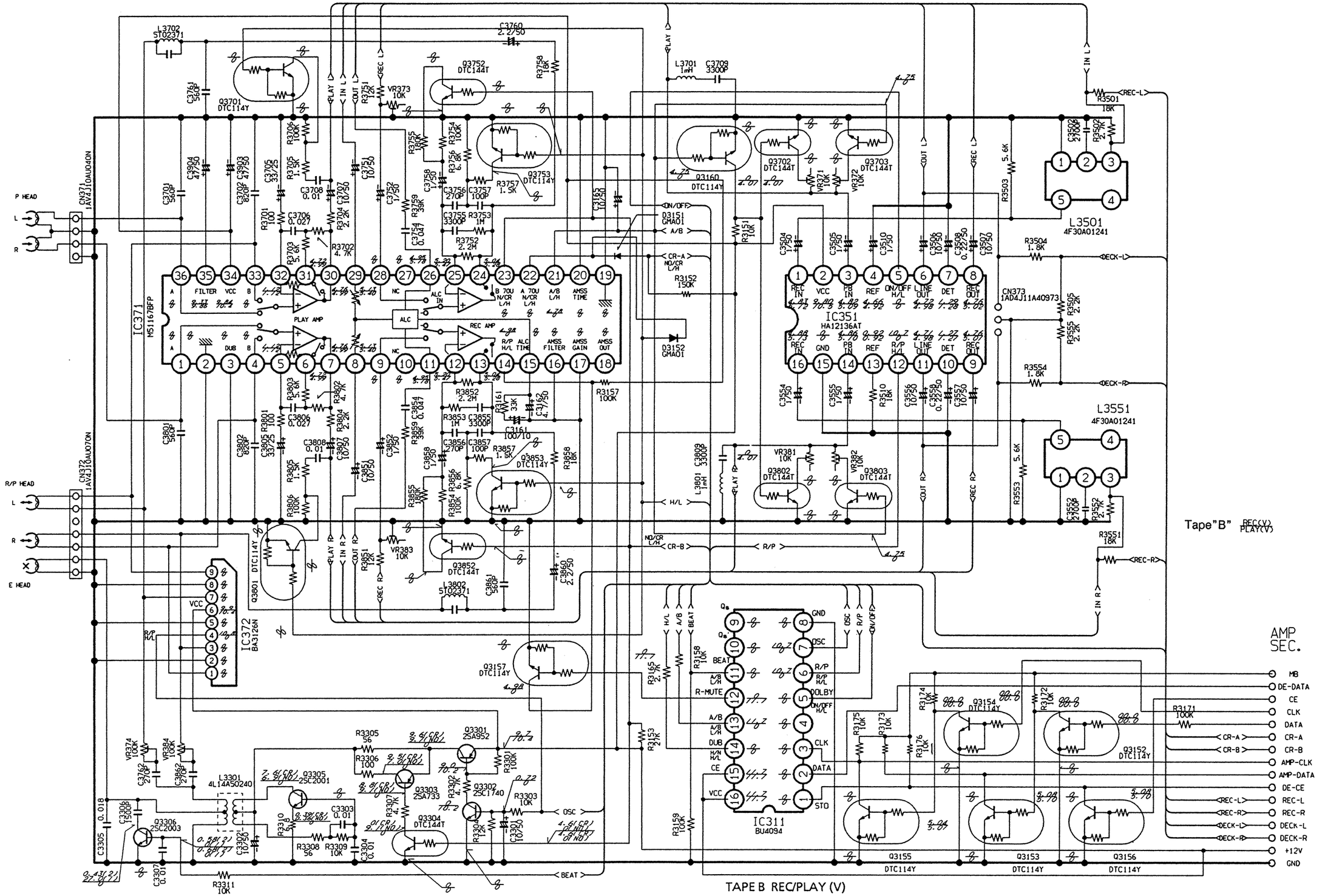
SCHEMATIC DIAGRAM (AMP.)

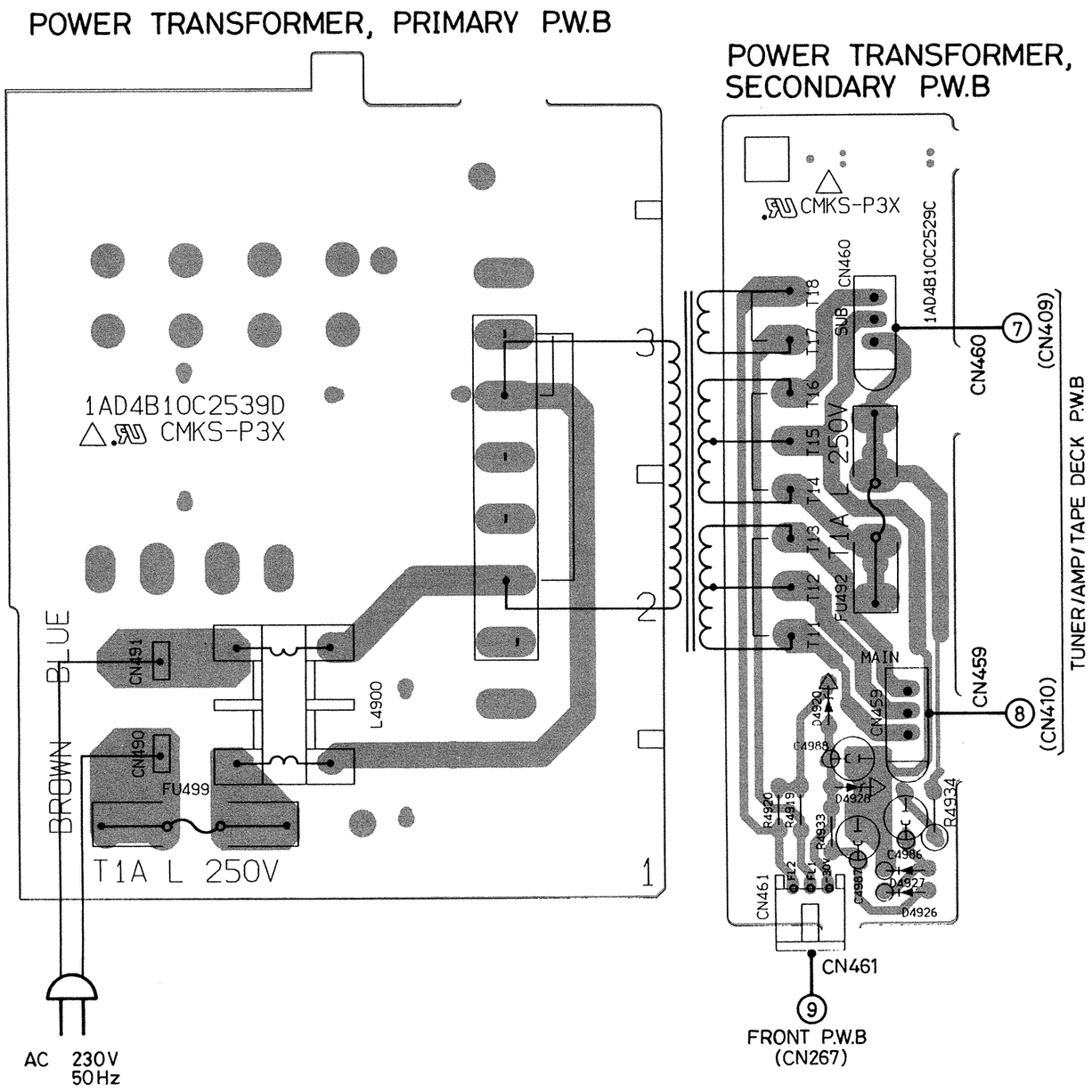


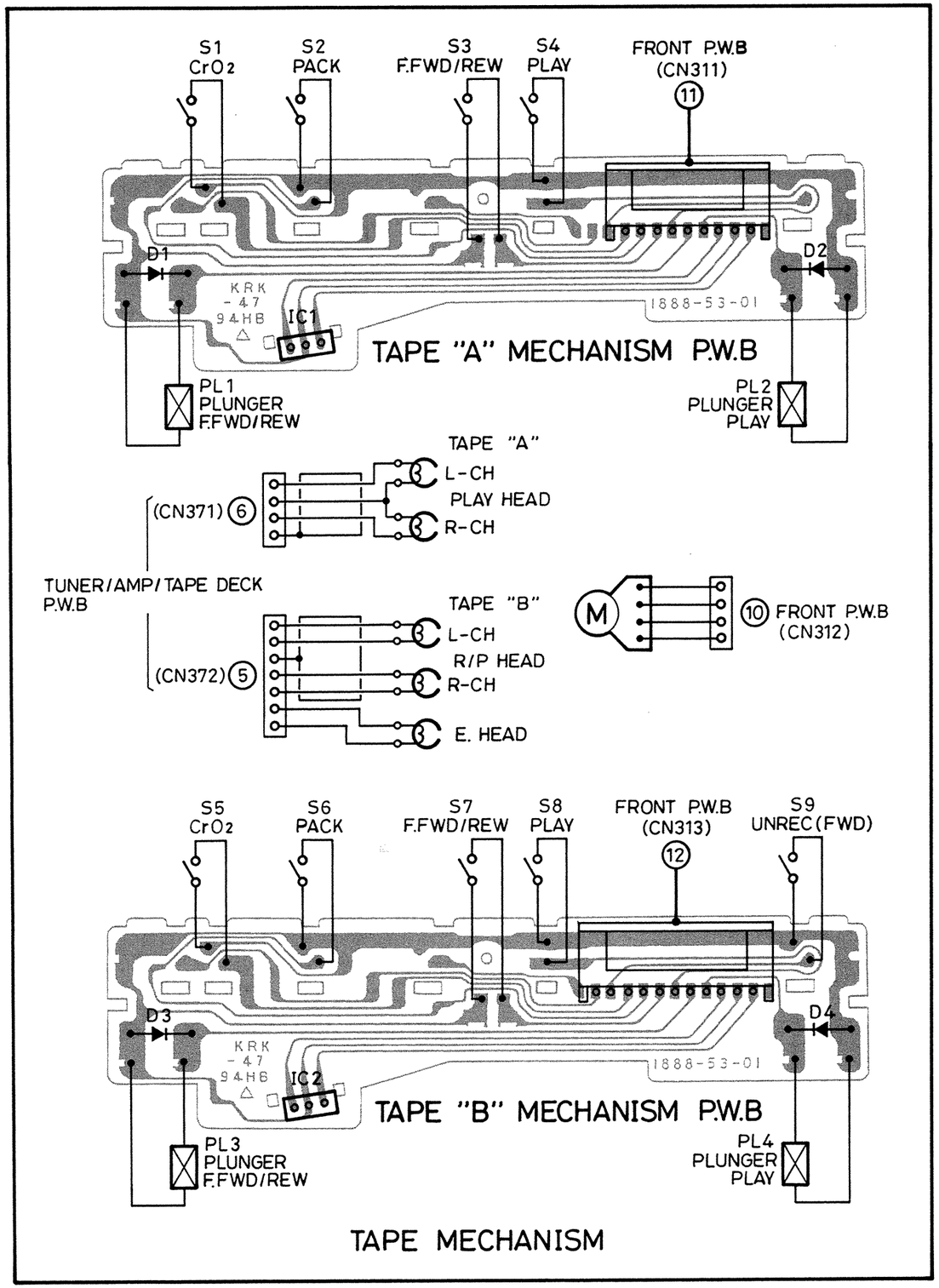
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing.
Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance.
When replacing a component identified ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual.

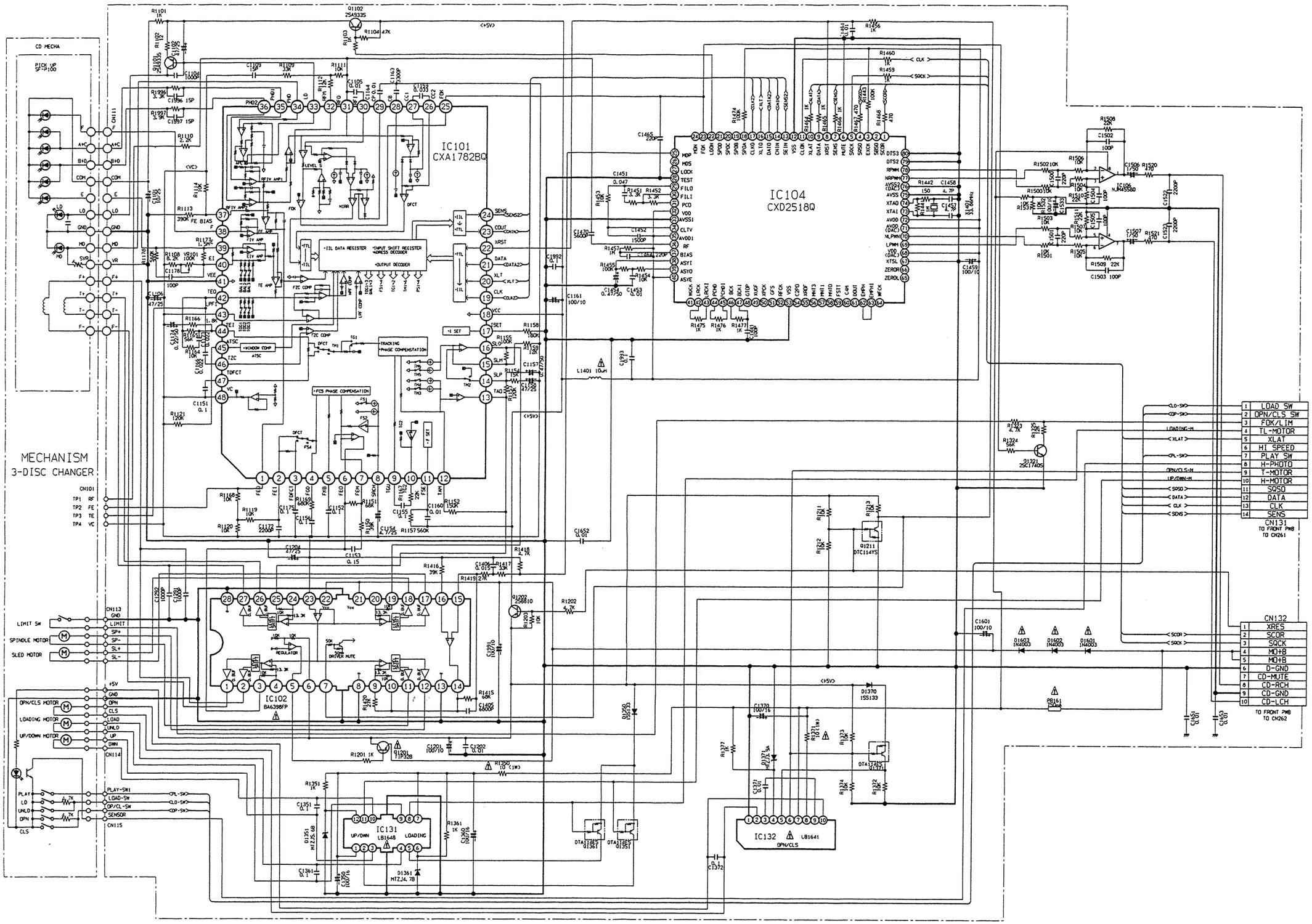

TUNER / AMP / TAPE DECK P.W.B
FRONT P.W.B (CN263) 1
CN405
FRONT P.W.B (CN264) 2
CN404
VOLUME
(CN265) 3
CN406
FRONT P.W.B
(CN266) 4
CN402
PHONES
CN408
REGULATOR (A) P.W.B
CN470
REGULATOR (B) P.W.B
TAPE MECHANISM
TAPE "B" HEAD 5
CN372
TAPE "A" HEAD 6
CN371
POWER TRANSFORMER, SECONDARY P.W.B
(CN460) 7
CN409
(CN459) 8
CN410
FM 75 ohm
AM LOOP
ANTENNA TERMINAL
CN474
15 LED P.W.B (CN283)
RESET
L-CH
R-CH
VIDEO/PHONO INPUT
VIDEO/PHONO
L-CH
R-CH
SURROUND SPEAKER
L-CH
R-CH
SPEAKER TERMINAL
T3.15A L 250V
T3.15A L 250V
1AD4B10C2529A
CMKS-P3X
FINE CAT

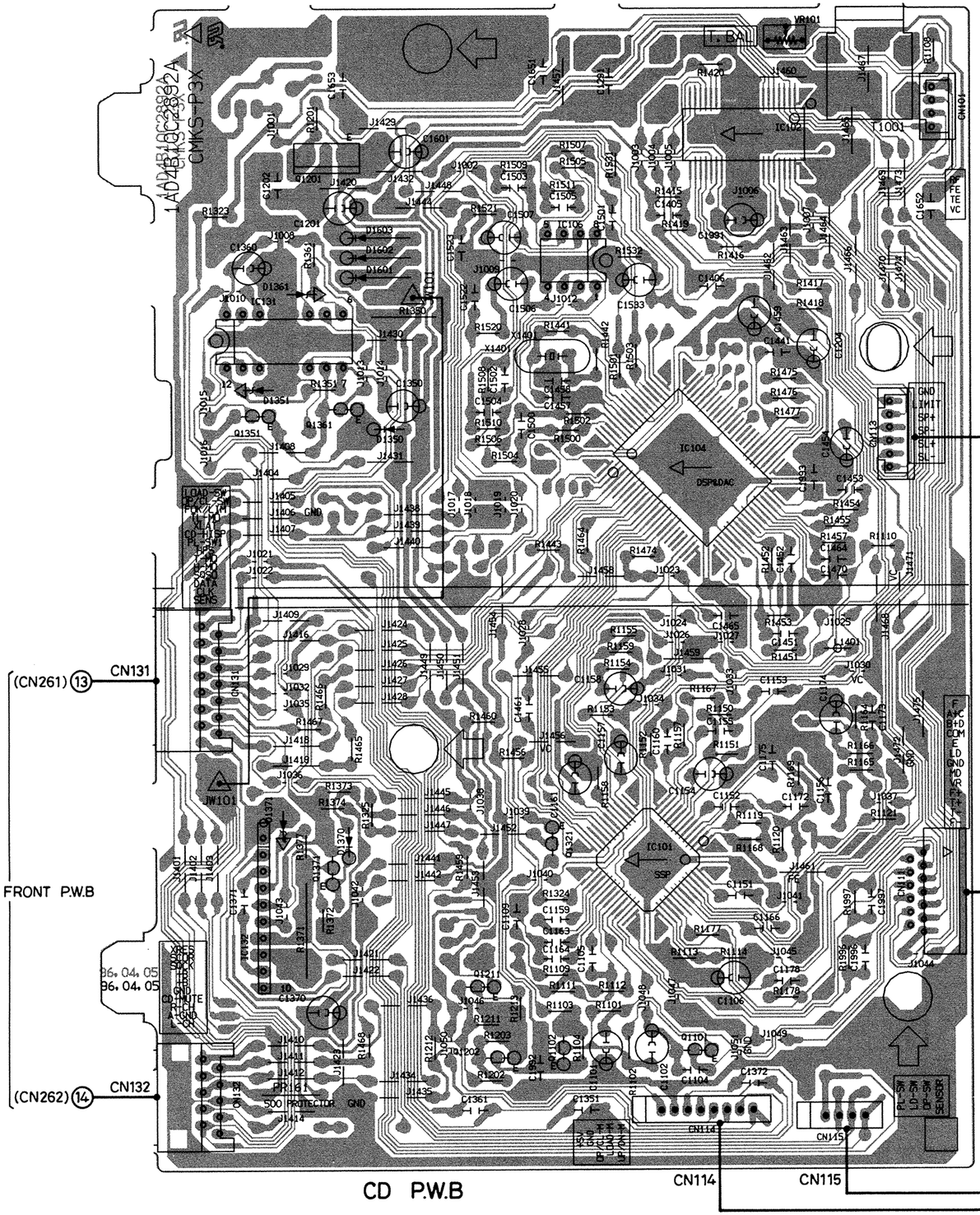

P HEAD
R/P HEAD
E HEAD
IC371
M51167BFP
PLAY AMP
REC AMP
IC372
BA3126N
IC351
HA12136AT
IC311
BU4094
L3501
4F30A01241
L3551
4F30A01241
L3301
4L14A50240
Tape"B" REC(V) PLAY(V)
TAPE B REC/PLAY (V)
AMP SEC.
MB
DE-DATA
CE
CLK
DATA
CR-A
CR-B
AMP-CLK
AMP-DATA
DE-CE
REC-L
REC-R
DECK-L
DECK-R
+12V
GND

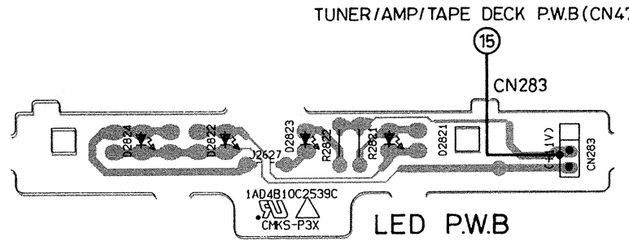

POWER TRANSFORMER, PRIMARY P.W.B
1AD4B10C2539D
CMKS-P3X
BLUE
BROWN
CN491
CN490
FU499
L4900
T1A L 250V
1
2
AC 230V
50Hz
POWER TRANSFORMER,
SECONDARY P.W.B
CMKS-P3X
1AD4B10C2529C
CN460
SUB
T18
T17
T16
T15
T14
T13
T1A
T12
T1
FU492
MAIN
CN459
CN461
T1A L 250V
CN460
(CN409)
CN459
(CN410)
TUNER/AMP/TAPE DECK P.W.B
FRONT P.W.B
(CN267)

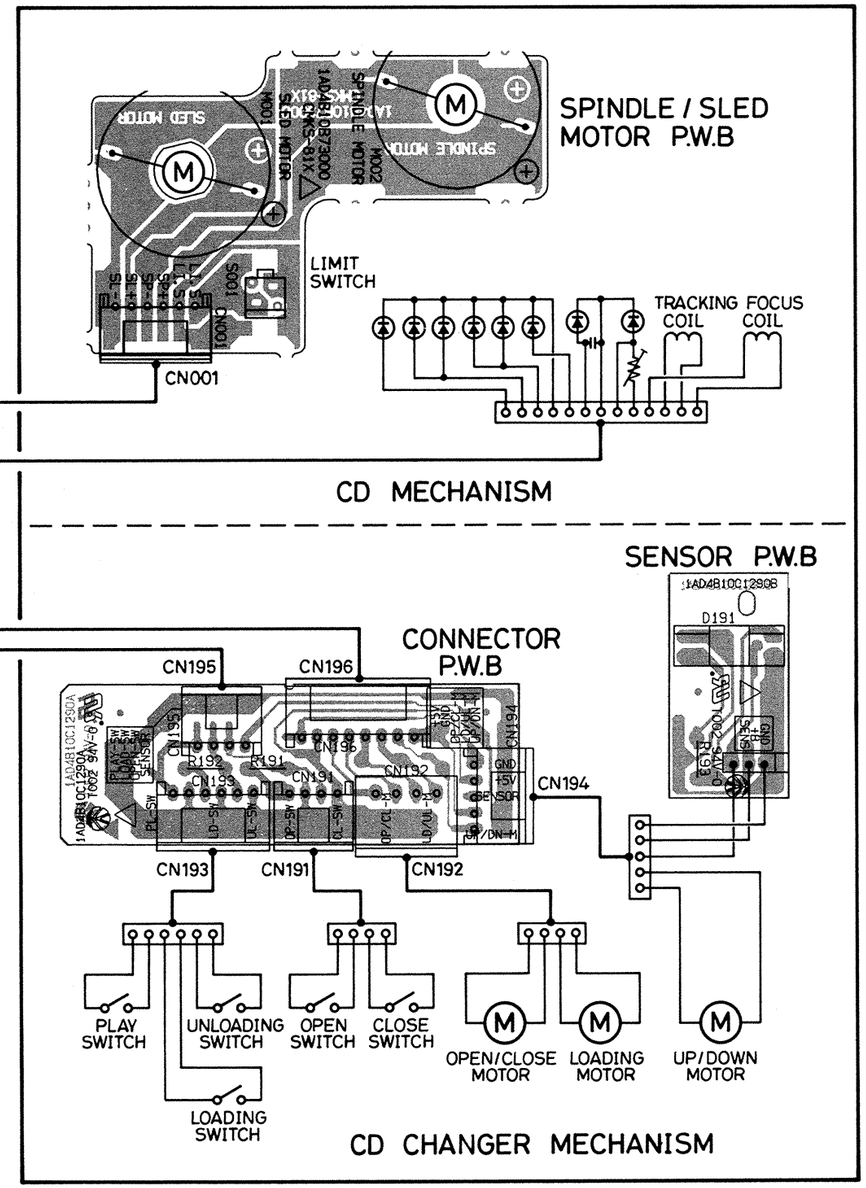

S1
CrO2
S2
PACK
S3
F.FWD/REW
S4
PLAY
FRONT P.W.B
(CN311)
D1
D2
KRK
-47
94HB
IC1
1888-53-01
TAPE "A" MECHANISM P.W.B
PL1
PLUNGER
F.FWD/REW
PL2
PLUNGER
PLAY
TAPE "A"
L-CH
PLAY HEAD
R-CH
(CN371)
TUNER/AMP/TAPE DECK
P.W.B
TAPE "B"
L-CH
R/P HEAD
R-CH
E. HEAD
(CN372)
M
FRONT P.W.B
(CN312)
S5
CrO2
S6
PACK
S7
F.FWD/REW
S8
PLAY
FRONT P.W.B
(CN313)
S9
UNREC(FWD)
D3
D4
KRK
-47
94HB
IC2
1888-53-01
TAPE "B" MECHANISM P.W.B
PL3
PLUNGER
F.FWD/REW
PL4
PLUNGER
PLAY
TAPE MECHANISM

SCHEMATIC DIAGRAM (CD)

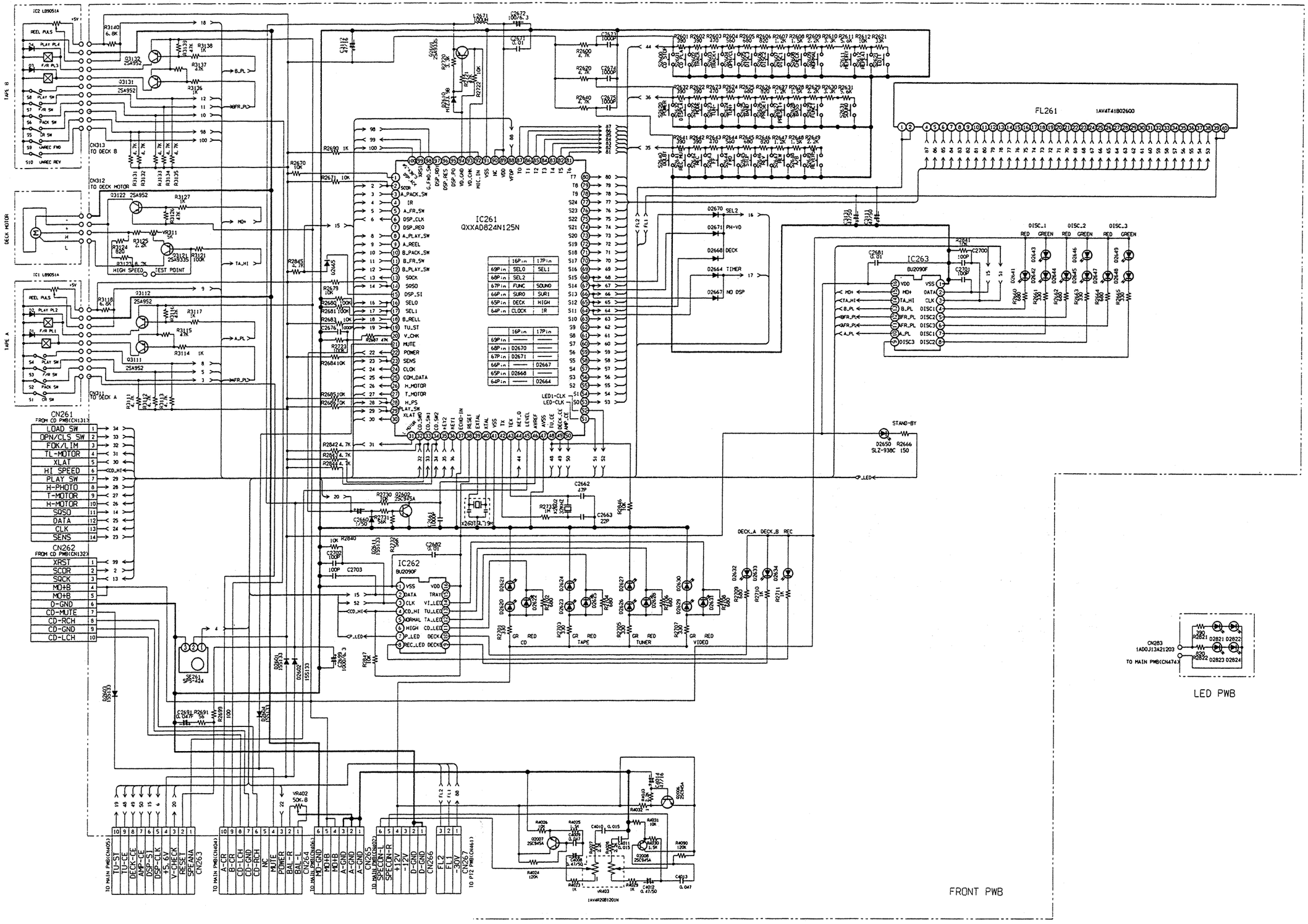


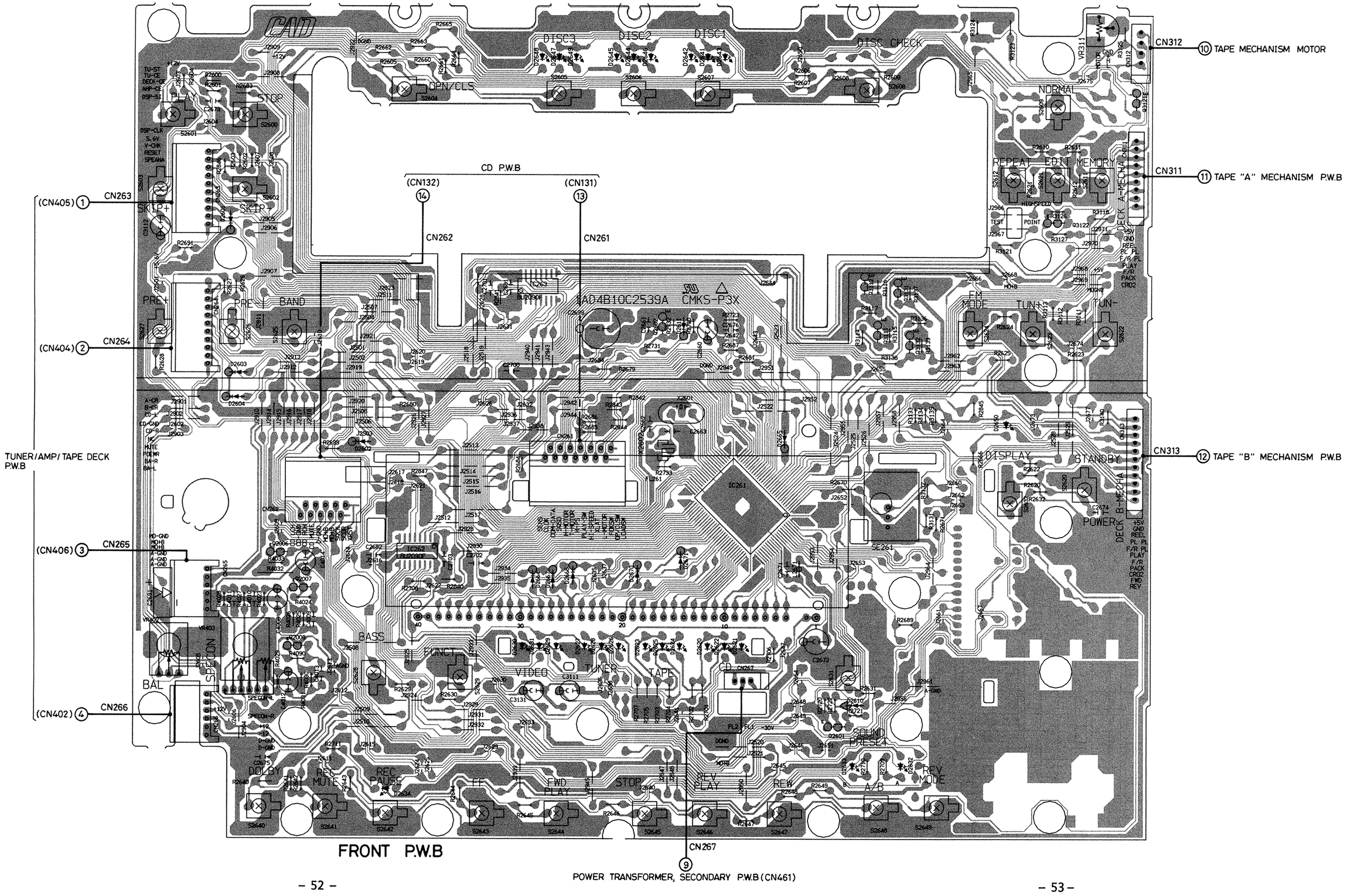

1AD4B10C2382A
CMKS-P3X
T. Ball
VR101
IC102
T1001
IC104
DSP/DAC
IC101
SSP
IC106
X1401
CN113
CN111
CN114
CN115
CN131
CN132
(CN261) 13
(CN262) 14
FRONT P.W.B
JW101
CD P.W.B


TUNER/AMP/TAPE DECK P.W.B(CN474)
15
CN283
1AD4B10C2539C
CMKS-P3X
LED P.W.B


SPINDLE / SLED
MOTOR P.W.B
LIMIT
SWITCH
CN001
TRACKING FOCUS
COIL
COIL
CD MECHANISM
SENSOR P.W.B
CONNECTOR
P.W.B
CN195
CN196
CN194
CN193
CN191
CN192
PLAY
SWITCH
UNLOADING
SWITCH
OPEN
SWITCH
CLOSE
SWITCH
LOADING
SWITCH
OPEN/CLOSE
MOTOR
LOADING
MOTOR
UP/DOWN
MOTOR
CD CHANGER MECHANISM

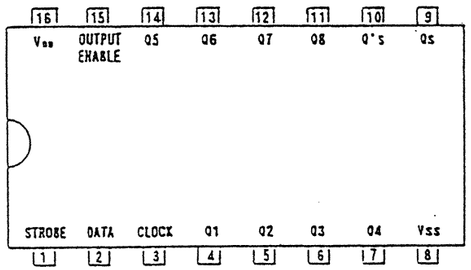
SCHEMATIC DIAGRAM (FRONT)

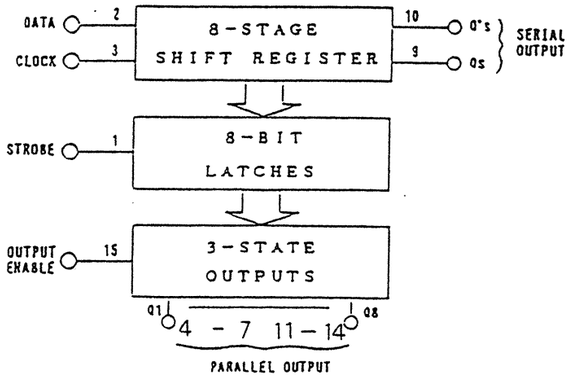



CAD
DISC3
DISC2
DISC1
DISC CHECK
OPN/CLS
PLAY
STOP
SKIP+
SKIP-
PRE+
PRE-
BAND
CD P.W.B
(CN132)
(CN131)
CN262
CN261
AD4B10C2539A
CMKS-P3X
NORMAL
REPEAT
EDIT MEMORY
HIGHSPEED
TEST
POINT
FM MODE
TUN+
TUN-
DISPLAY
STANDBY
POWER
SPECON
BAL
BASS
FUNCT
VIDEO
TUNER
TAPE
CD
SOUND PRESET
DOLBY
REC MUTE
REC PAUSE
FF
FWD PLAY
STOP
REV PLAY
REW
REV MODE
A/B
IC261
IC262
SE261
CN263
CN264
CN265
CN266
CN267
(CN405) 1
(CN404) 2
(CN406) 3
(CN402) 4
TUNER/AMP/ TAPE DECK P.W.B
CN312
10 TAPE MECHANISM MOTOR
CN311
11 TAPE "A" MECHANISM P.W.B
CN313
12 TAPE "B" MECHANISM P.W.B
9 POWER TRANSFORMER, SECONDARY P.W.B (CN461)
FRONT P.W.B

IC BLOCK DIAGRAM & DESCRIPTION

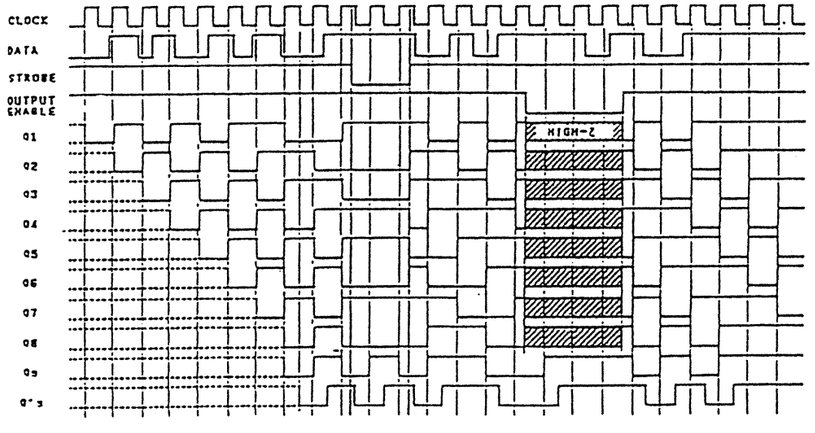
IC311, BU4094B (8-STAGE SHIFT/STORE REGISTER)
IC455,
IC462





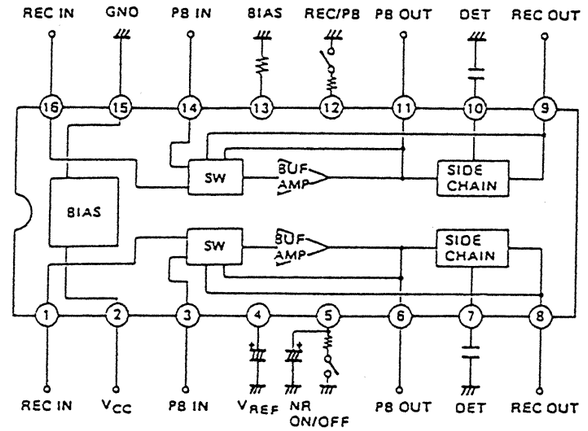
CLOCK	OUTPUT ENABLE	STROBE	DATA	PARALLEL OUTPUTS		SERIAL OUTPUTS	
				Q1	Qn	Qs	Q's
↓	L	×	×	Z	Z	Q7	No Chg.
↑	L	×	×	Z	Z	No Chg.	Qs
↓	H	L	×	No Chg.	No Chg.	Q7	No Chg.
↓	H	H	L	L	Qn−1	Q7	No Chg.
↓	H	H	H	H	Qn−1	Q7	No Chg.
↑	H	×	×	No Chg.	No Chg.	No Chg.	Qs

Z=High Impedance
×=Don't Care

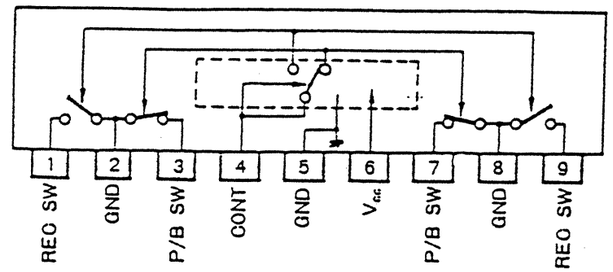


IC BLOCK DIAGRAM & DESCRIPTION

IC351 HA12136A (DOLBY B-TYPE NOISE REDUCTION)



IC372 BA3126N (HEAD CHANGEOVER SWITCHES)

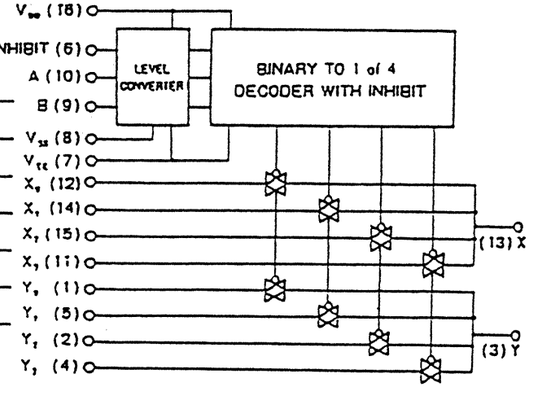


IC450, BU4052BCF (FUNCTION)
IC454

Truth Table

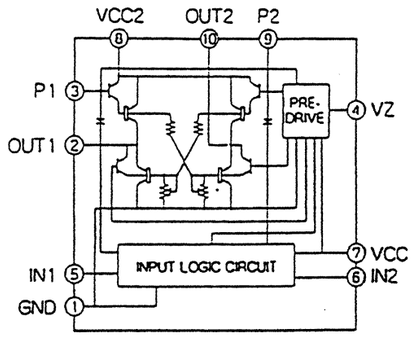
INHIBIT	A	B	ON SWITCH
L	L	L	X0 Y0
L	H	L	X1 Y1
L	L	H	X2 Y2
L	H	H	X3 Y3
H	X	X	NONE

X : Don't Care



IC BLOCK DIAGRAM & DESCRIPTION

IC132, LB1641 (RECORD/PLAY SWITCHING)
IC456



Input		Output		Action
IN1	IN2	OUT1	OUT2	
0	0	0	0	Brake
1	0	1	0	Normal(Reverse)Rotary
0	1	0	1	Reverse(Normal)Rotary
1	1	0	0	Brake

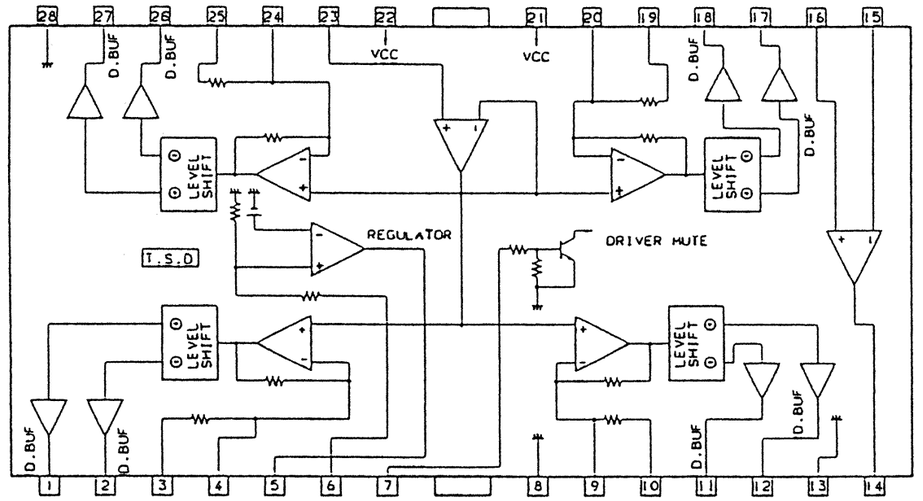
IC101 CXA1782BQ (SERVO SIGNAL PROCESSOR)

No.	Name	I / O	Description
1	FEO	O	Focus error amplifier output.
2	FEI	I	Focus error input.
3	FDFCT	I	Capacitor connection pin for detect time constant.
4	FGD	I	Ground this pin through a capacitor when decreasing the focus servo high-frequency
5	FLB	I	External time constant setting pin for increasing the focus servo low frequency.
6	FEO	O	Focus drive output.
7	FEM	I	Focus amplifier negative input.
8	SRCH	I	External time constant setting pin for generating focus servo waveform.
9 10	TGU TG2	I I	External time constant setting pin for switching tracking high-frequency gain.
11	FSET	I	High cut off frequency setting pin for focus and tracking phase compensation amplifier.
12	TAM	I	Tracking amplifier negative input.
13	TAO	O	Tracking drive output.
14	SLP	I	Sled amplifier non-inverted input.
15	SLM	I	Sled amplifier negative input.
16	SLO	O	Sled drive output
17	ISET	I	Setting pin for Focus search, Tracking jump, and Sled kick current.
18	V_{CC}	-	+5.0V
19	CLK	I	Serial data transfer clock input from CPU.
20	XLT	I	Latch input from CPU.
21	DATA	I	Serial data input from CPU.
22	XRST	I	Reset input; resets at Low.
23	C.OUT	O	Track number count signal output.
24	SENS	O	Outputs FZC, DFCT, TZC, gain, balance, and others according to the command from CPU.

No.	Name	I / O	Description
25	FOK	O	Focus OK comparator output.
26	CC2	O	Input pin for the DEFECT bottom hold output capacitance-coupled.
27	CC1	I	DEFECT bottom hold output.
28	CB	I	Connection pin for DEFECT bottom hold capacitor.
29	CP	I	Connection pin for MIRR hold capacitor. MIRR comparator non-inversed input.
30	RFI	I	Input pin for the RF summing amplifier output capacitance-coupled.
31	RFO	O	RF summing amplifier output. Eye pattern check point.
32	RFM	I	RF summing amplifier inverted input. The RF amplifier gain is determined by the resistance connected between this pin and RFO pin.
33	LD	O	APC (Auto Power Control) amplifier output.
34	PHD	I	APC (Auto Power Control) amplifier input.
35 36	PHD1 PHD2	I I	RF I-V amplifier inverted input.
37	FEBIAS	I	Bias adjustment of focus error amplifier.
38 39	F E	I I	F I-V and E I-V amplifier inverted input.
40	EI	-	I-V amplifier E gain adjustment.
41	V_{EE}	-	GND
42	TEO	O	Tracking error amplifier output.
43	LPFI	I	Comparator input for balance adjustment.
44	TEI	I	Tracking error input.
45	ATSC	I	Window comparator input for ATSC detection.
46	TZC	I	Tracking zero-cross comparator input.
48	VC	O	$(V_{CC} + V_{EE})$ / 2 DC voltage output.

IC BLOCK DIAGRAM & DESCRIPTION

IC102 BA6398FP (POWER DRIVER)



No.	NAME	DESCRIPTION
1	CH1-OUT A	DRIVER CH1 (-)
2	CH1-OUT B	DRIVER CH1 (+)
3	CH1-IN A	DRIVER CH1
4	CH1-IN B	NOT USED
5	Tr-B	REGULATOR
6	Vreg OUT	Vreg
7	MUTE	MUTE CONTROL
8	GND	GND
9	CH2-IN B	DRIVER CH2 GAIN
10	CH2-IN A	DRIVER CH2
11	CH2-OUT B	DRIVER CH2 (+)
12	CH2-OUT A	DRIVER CH2 (-)
13	GND	GND
14	OP OUT	OP. AMP
15	OP IN (-)	OP. AMP
16	OP IN (+)	OP. AMP
17	CH3-OUT A	DRIVER CH3 (-)
18	CH3-OUT B	DRIVER CH3 (+)
19	CH3-IN A	DRIVER CH3
20	CH3-IN B	NOT USED
21	VCC	VCC
22	VCC	VCC
23	BIAS IN	BIAS
24	CH4-IN B	NOT USED
25	CH4-IN A	DRIVER CH4
26	CH4-OUT B	DRIVER CH4 (+)
27	CH4-OUT A	DRIVER CH4 (-)
28	GND	GND

IC BLOCK DIAGRAM & DESCRIPTION

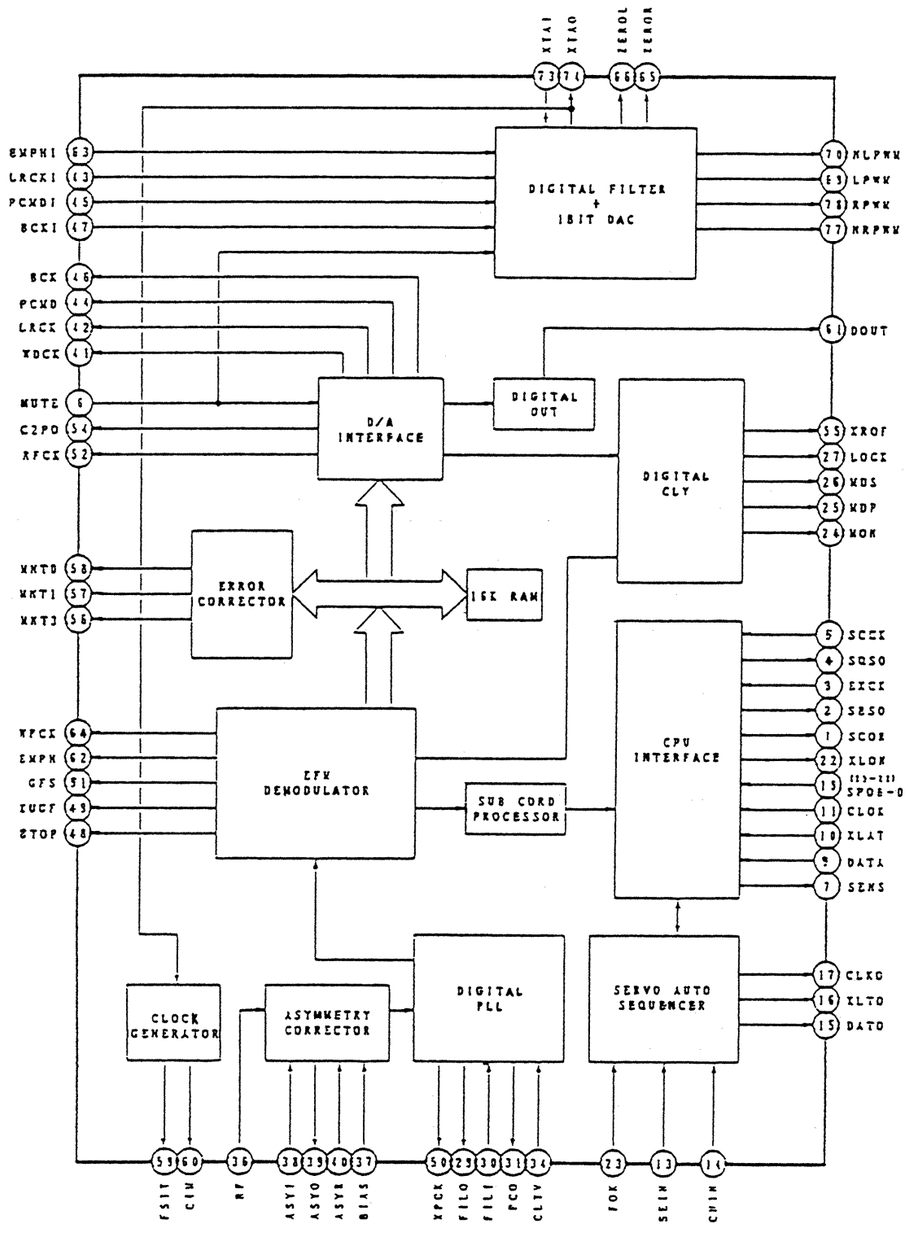
IC104 CXD2518Q (DIGITAL SIGNAL PROCESSOR)

No.	Name	I / O	Description
1	SCOR	O	Turns "H" when sync S0 or S1 is detected.
2	SBSO	O	Serial output of sub-code P ~ W.
3	EXCK	I	Clock input for reading SBSO.
4	SQSO	O	Serial output of SUBQ & SOBIT.
5	SQCK	I	Clock input for reading SQSO.
6	MUTE	I	"H" at muting, "L" at muting cancel.
7	SENS	O	SENS signal output to CPU.
8	XRST	I	System reset, "L" at resetting.
9	DATA	I	Inputs serial data from CPU.
10	XLAT	I	Latches input from CPU. Serial data latches at falling edge.
11	CLOK	I	Inputs serial data transfer clock from CPU.
12	V_{SS}	-	GND.
13	SEIN	I	Inputs SENS signal from SSP.
14	CNIN	I	Inputs track jump count signal
15	DATO	O	Outputs serial data to SSP
16	XLTO	O	Outputs latches to SSP. Serial data latches at falling edge.
17	CLKO	O	Outputs serial data transfer clock to SSP.
18	TEST2	I	Pin for TEST. Normal used state: V_{DD}.
19	SPOB	I	Not used
20	SPOC	I	Not used
21	SPOD	I	Not used
22	XLON	O	Interface for extension of M. processor(output)
23	FOK	I	Focus OK signal input pin. Used servo auto sequencer with SENS output.
24	MON	O	ON/OFF control signal for spindle motor.
25	MDP	O	Servo control signal for spindle motor.
26	MDS	O	Not used
27	LOCK	O	Not used
28	TEST	I	GND.
29	FILO	O	Output of filter for master PLL.(Slave = Digital PLL)
30	FILI	I	Inputs to filter for master PLL.
31	PCO	O	Outputs of charge pump for master PLL.
32	V_{DD}	-	Power supply for digital.(+ 5V)
33	AV_{SS1}	-	Power supply for analog.(0V)
34	CLTV	I	VCO control voltage input for master PLL.
35	AV_{DD1}	-	Power supply for analog.(+ 5V)
36	RF	I	EFM signal input.
37	BIAS	I	Inputs constant current for asymmetry correction circuit.
38	ASYI	I	Inputs comparator voltage for asymmetry correction circuit.
39	ASYO	O	EFM fill swing output.("L" = V_{SS}, "H" = V_{DD})
40	ASYE	I	"L" : OFF of asymmetry correction. "H" : ON of asymmetry correction.

No.	Name	I / O	Description
41	WDCK	O	Not used
42	LRCK	O	D/A interface for 48-bit slot. LR clock (f = FS)
43	LRCKI	I	Inputs LR clock to DAC.(48-bit slot)
44	PCMD	O	D/A interface. Serial data(2'SCOMP,MBS first)
45	PCMDI	I	Inputs audio data to DAC.(48-bit slot)
46	BCK	O	D/A interface. Bit clock.
47	BCKI	I	Inputs bit clock to DAC.(48-bit slot)
48	GTOP	O	Not used
49	XUGF	O	Not used
50	XPCK	O	Not used
51	GFS	O	Not used
52	RFCK	O	Not used
53	V_{SS}	-	GND.
54	C2PO	O	Not used
55	XROF	O	Not used
56	MNT3	O	Not used
57	MNT1	O	Not used
58	MNT0	O	Not used
59	FSTT	O	Not used
60	C4M	O	Not used
61	DOUT	O	Not used
62	EMPH	O	Stays "H" for playback disc provided with emphasis or "L" for that without emphasis.
63	EMPHI	I	De-emphasis ON/OFF of DAC. "H" at ON, "L" at OFF.
64	WFCK	O	Not used
65	ZEROL	O	Outputs detection for non-sound data. "H" at detection for non-sound data (L-ch)
66	ZEROR	O	Outputs detection for non-sound data. "H" at detection for non-sound data (R-ch)
67	DTS1	I	Normal used state: "L".
68	V_{DD}	-	Power supply for DAC.
69	LPWM	O	Outputs PWM for L-ch. (Positive Phase)
70	NLPWM	O	Outputs PWM for L-ch. (Negative Phase)
71	AV_{DD2}	-	Power supply for L-ch PWM driver.
72	AV_{DD3}	-	Power supply for X'tal.
73	XTAI	I	Inputs X'tal oscillation circuit (33.8688MHz).
74	XTAO	I	Outputs X'tal oscillation circuit (33.8688MHz).
75	AV_{SS3}	-	GND.
76	AV_{SS2}	-	GND.
77	NRPWM	O	Outputs PWM for R-ch. (Negative Phase)
78	RPWM	O	Outputs PWM for R-ch. (Positive Phase)
79	DTS2	I	Normal used state: "L".
80	DTS3	I	Normal used state: "L".

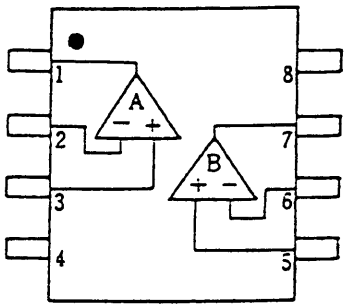
IC BLOCK DIAGRAM & DESCRIPTION

IC104 CXD2518Q (DIGITAL SIGNAL PROCESSOR)



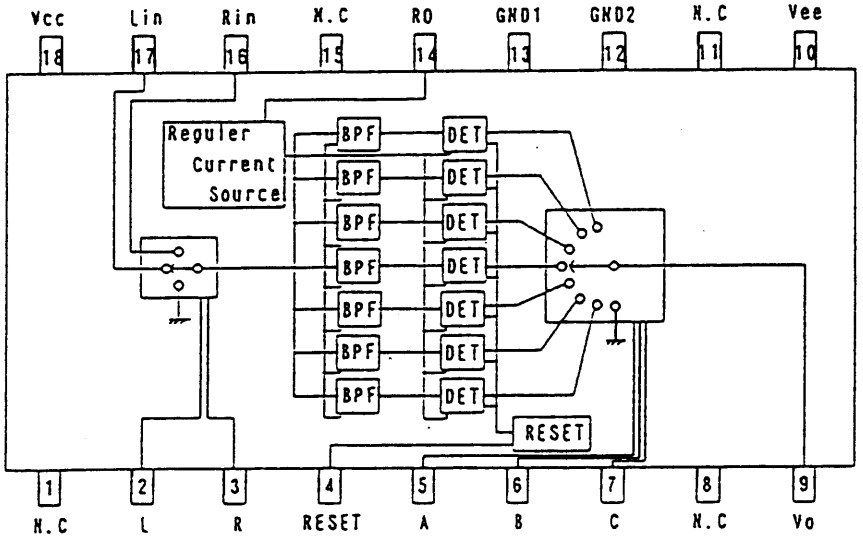
IC BLOCK DIAGRAM & DESCRIPTION

IC448, NJM4558M (OP. AMP.)
IC451,
IC453,
IC461,
IC470



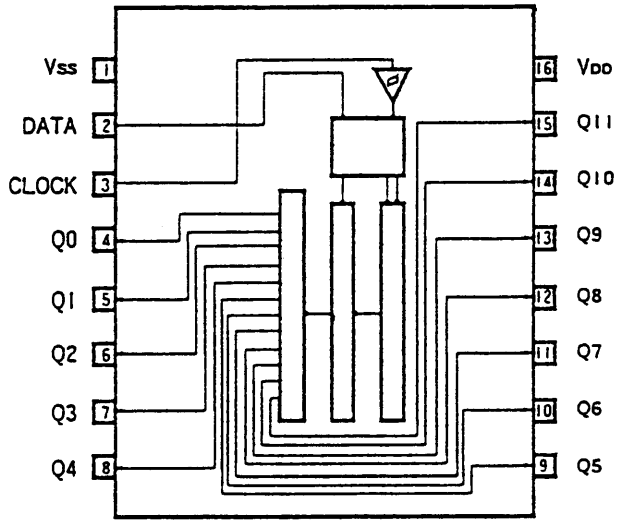
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

IC457 BA3826S (SPECTRUM ANALYZER B.P.F)

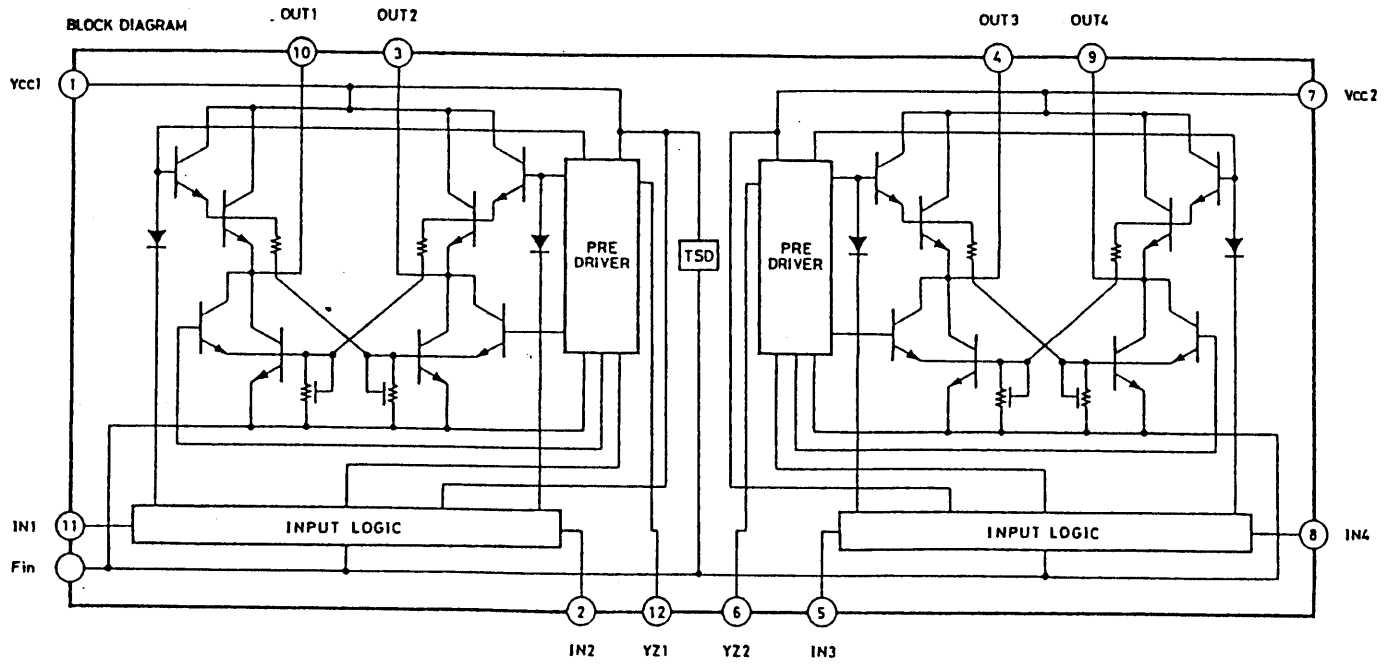


SELECT			OUTPUT
A (5pin)	B (6pin)	C (7pin)	Vo (9pin)
H	H	H	0
L	H	H	f 01
H	L	H	f 02
L	L	H	f 03
H	H	L	f 04
L	H	L	f 05
H	L	L	f 06
L	L	L	f 07

IC262, BU2090F (SERIAL IN/PARALLEL OUT DRIVER)
IC263

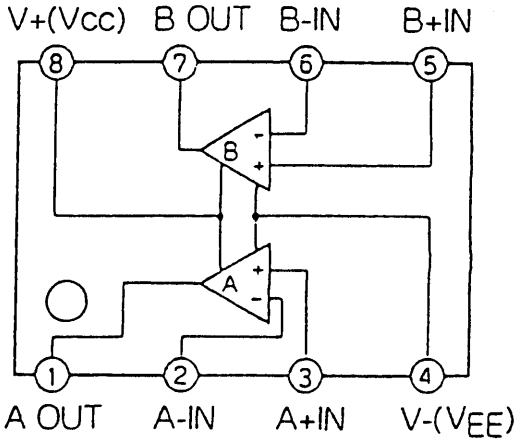


IC131 LB1648 (REEL MOTOR DRIVER)



IN1	IN2	OUT1	OUT2	IN3	IN4	OUT3	OUT4
0	0	OPEN	OPEN	0	0	OPEN	OPEN
1	0	H	L	1	0	H	L
0	1	L	H	0	1	L	H
1	1	L	L	1	1	L	L

IC106 NJM4558D or LA6458D (OP. AMP.)



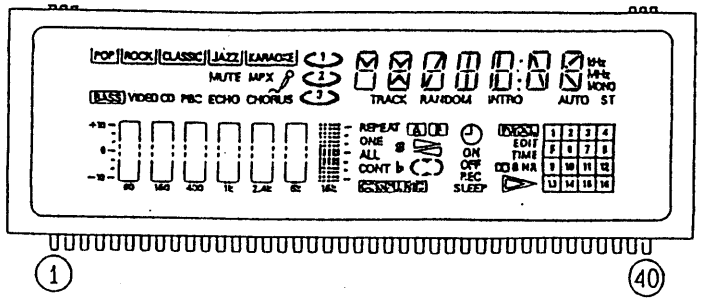
IC BLOCK DIAGRAM & DESCRIPTION

IC261 CX82440A-125Q or 129Q (MICROPROCESSOR)

No.	PIN NAME	I/O	DESCRIPTION
1	DSP-ACK	I	DSP
2	SCOR	I	CD SENSOR DETECTOR
3	A-PACK-SW	I	DECK A TAPE DETECTION (ON = YES)
4	IR	I	REMOTE CONTROL
5	A-FR-SW	I	DECK A FF / REW DIRECTION SWITCH
6	DSP-CLK	O	DSP CLOCK
7	DSP-REQ	O	DSP REQUEST
8	A-PLAY-SW	I	DECK A PLAY SWITCH
9	A-REEL	I	DECK A REEL PULSE
10	B-PACK-SW	I	DECK B TAPE DETECTION (ON = YES)
11	B-FR-SW	I	DECK B FF / REW DIRECTION SWITCH
12	B-PLAY-SW	I	DECK B PLAY SWITCH
13	SQCK	O	CD SUB-CODE CLOCK
14	SQSO	I	CD SUB-CODE DATA
15	DSP-SI	O	DSP DATA
16	SEL0	I	SELECT ION FUNCTION
17	SEL1	I	SELECTION FUNCTION
18	B-REEL	I	DECK B REEL PULSE
19	TU-ST	I	STEREO = "L" INPUT
20	V-CHK	I	VOLTAGE CHECK, FAILURE
21	MUTE	O	MUTE CONTROL (L = OFF, H = ON)
22	POWER	O	POWER CONTROL (L = OFF, H = ON)
23	SENS	I	CD SENS INPUT
24	CLOK	O	CD CLOCK
25	COM-DATA	O	CD COMMAND DATA
26	H-MOTOR	O	HOLDER (H = UP, M = STOP, L = DOWN)
27	T-MOTOR	O	CD TRAY MOTOR (H = OPEN, M = STOP, L = CLOSE)
28	H-PS	I	CD HOLDER PHOTO SENSOR
29	PLAY-SW	I	CD MECHANISM PLAY SWITCH
30	XLAT	O	CD LATCH
31	L-MOTOR	O	LOADING MOTOR CONTROL (H = LOAD, M = STOP, L = UNLOAD)
32	CD-SW0	I	CD LOAD SWITCH, UNLOAD
33	CD-SW1	I	CD OPEN SWITCH, CLOSE
34	CD-SW2	I	CD LIMIT SWITCH, FOK INPUT
35	KEY2	I	KEY INPUT
36	KEY1	I	KEY INPUT
37	ECHO-IN	I	ECHO INPUT
38	RESET		RESET
39	EXTAL		CRYSTAL (4.19MHz)
40	XTAL		CRYSTAL (4.19MHz)
41	VSS		GND
42	TX		32kHz OSCILLATOR (CRYSTAL)
43	TEX		32kHz OSCILLATOR (CRYSTAL)
44	KEY0	I	KEY INPUT
45	LEVEL	I	FREQUENCY LEVEL
46	AVREF		AD CONVERTER REFERENCE VOLTAGE
47	AVSS		AD CONVERTER GND
48	TU-CE	O	PLL IC CE
49	DECK-CE	O	DECK IC CE
50	AMP-CE	O	AMP IC CE

No.	PIN NAME	I/O	DESCRIPTION
51	LED-CLK1	O	LED 1 CLOCK
52	LED-CLK2	O	LED 2 CLOCK
53	S0	O	FL SEGMENT
54	S1	O	FL SEGMENT
55	S2	O	FL SEGMENT
56	S3	O	FL SEGMENT
57	S4	O	FL SEGMENT
58	S5	O	FL SEGMENT
59	S6	O	FL SEGMENT
60	S7	O	FL SEGMENT
61	S8	O	FL SEGMENT
62	S9	O	FL SEGMENT
63	S10	O	FL SEGMENT
64	S11	O	FL SEGMENT
65	S12	O	FL SEGMENT
66	S13	O	FL SEGMENT
67	S14	O	FL SEGMENT
68	S15	O	FL SEGMENT
69	S16	O	FL SEGMENT
70	S17	O	FL SEGMENT
71	S18	O	FL SEGMENT
72	S19	O	FL SEGMENT
73	S20	O	FL SEGMENT
74	S21	O	FL SEGMENT
75	S22	O	FL SEGMENT
76	S23	O	FL SEGMENT
77	S24	O	FL SEGMENT
78	T9	O	FL SEGMENT
79	T8	O	FL SEGMENT
80	T7	O	FL SEGMENT
81	T6	O	FL SEGMENT
82	T5	O	FL SEGMENT
83	T4	O	FL SEGMENT
84	T3	O	FL SEGMENT
85	T2	O	FL SEGMENT
86	T1	O	FL SEGMENT
87	T0	O	FL SEGMENT
88	VFDP		
89	VDD		
90	NC		VDD CONNECTION
91	VSS		GND
92	MIC-IN	I	MIC (L = YES)
93	VD-CHK	I	VDD CHECK
94	VD-GND	O	VDD GND
95	DSP-P0	O	DSP CONTROL
96	DSP-RES	O	DSP RESET
97	DSP-RDY	O	DSP READY
98	G-FWD-SW	I	DECK A FWD UN-REC
99	XRST	O	CD IC RESET (H = POWER OFF, RESET L) (M = POWER ON, RESET L) (L = POWER ON, RESET)
100	G-REV-SW	I	DECK A REV UN-REC

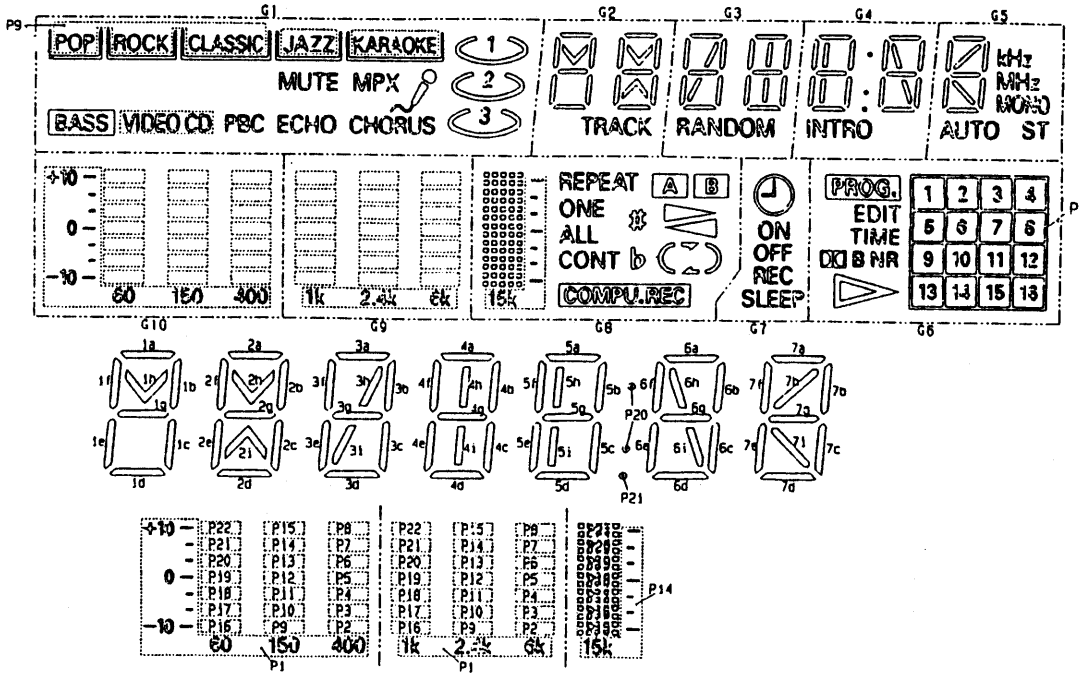
FL DISPLAY DESCRIPTION



PIN ASSIGNMENT

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assignment	F	F	NL	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10	S1	S2	S11	S3	S12	S9	S18

Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Assignment	S7	S16	S8	S17	S4	S13	S10	S19	S6	S15	S5	S14	S20	S21	S22	S23	S24	S25	F	F



	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
S1	POP					1		REPEAT	P1	P1
S2	ROCK	1a	3a	5a	7a	2	ON	ONE	P2	P2
S3	CLASSIC	1b	3b	5b	7b	3	OFF	ALL	P3	P3
S4	JAZZ	1c	3c	5c	7c	4	REC	CONT	P4	P4
S5	KARAOKE	1d	3d	5d	7d	5	SLEEP	COMPU REC	P5	P5
S6		1e	3e	5e	7e	6		A	P5	P6
S7		1f	3f	5f	7f	7		B	P7	P7
S8		1g	3g	5g	7g	8			P8	P8
S9	P9	1h	3h	5h	7h	9			P9	P9
S10	MUTE		3i	5i	7i	10			P10	P10
S11	MPX	2a	4a	6a	kHz	11			P11	P11
S12	BASS	2b	4b	6b	MHz	12			P12	P12
S13	VIDEO CD	2c	4c	6c	MONO	13			P13	P13
S14	PBC	2d	4d	6d	AUTO	14			P14	P14
S15	ECHO	2e	4e	6e	ST	15			P15	P15
S16	CHORUS	2f	4f	6f		16			P16	P16
S17	1	2g	3g	6g		P17			P17	P17
S18	2	2h	4h	6h		PROG			P18	P18
S19	3	2i	4i	6i		EDIT			P19	P19
S20	1	TRACK	RANDOM	P20		TIME			P20	P20
S21	2			P21		DBB NR			P21	P21
S22	3			INTRO					P22	P22
S23										
S24	JAZZ									
S25	KARAOKE									

IC & TRANSISTOR VOLTAGES (CD SECTION)

(V)

IC101 CXA1782BQ

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	2.6	2.5	2.5	2.5	2.5	2.7	2.5	2.9	2.5	2.5	0.8	2.5	2.5	2.5	2.5
STOP	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.9	2.5	2.5	0.8	2.5	2.5	2.5	2.5
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
PLAY	2.5	1.2	5.0	5.0	5.0	4.9	4.8	0	5.0	5.0	0.6	0.7	1.5	2.4	2.5
STOP	2.5	1.2	5.0	5.0	5.0	4.9	4.8	0	5.0	0	2.2	4.3	3.1	1.2	2.5
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
PLAY	3.5	2.5	3.8	0.2	2.5	2.5	2.4	2.3	2.5	2.2	0	2.5	2.5	2.5	2.5
STOP	1.0	3.5	0.8	0	2.2	2.2	2.5	2.5	2.1	3.4	0	2.5	2.5	2.5	2.5
Pin No.	**46**	**47**	**48**												
PLAY	2.5	2.5	2.5												
STOP	2.5	2.5	2.5												

IC102 BA6398FP

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	4.2	4.2	2.5	2.5	8.2	5.0	4.8	0	2.5	2.4	4.6	4.1	0	2.4	2.5
STOP	4.2	0	2.5	2.5	9.3	5.0	4.8	0	2.5	2.5	4.6	4.6	0	9.0	2.5
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**		
PLAY	2.5	4.2	4.4	2.5	2.5	9.2	9.2	2.5	2.5	2.5	4.2	4.2	0		
STOP	2.5	4.6	4.6	2.5	2.5	9.2	9.2	2.5	2.5	0	4.6	4.6	0		

IC104 CXD2518

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PLAY	0	0	5.0	0	4.7	0	5.0	4.8	4.7	4.8	4.8	0	5.0	0	3.3
STOP	0	3.4	5.0	0	4.9	0	0	4.8	4.8	4.8	4.8	0	5.0	0	5.0
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
PLAY	5.0	5.0	5.0	5.0	0	0	0.5	5.0	5.0	2.6	0	5.0	0	2.5	2.5
STOP	5.0	5.0	5.0	0	0	0	5.0	0	0	2.5	0	0	0	2.5	2.5
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
PLAY	2.5	5.0	0	2.5	5.0	2.7	0.8	2.5	2.5	5.0	2.5	2.5	2.5	2.5	2.5
STOP	2.5	5.0	0	2.5	5.0	2.7	0.8	2.5	2.5	5.0	2.5	2.5	2.5	2.7	2.7
Pin No.	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
PLAY	2.0	2.4	0	5.0	1.7	5.0	2.5	1.7	0	5.0	4.5	0	0	2.6	1.7
STOP	2.0	2.4	5.0	5.0	1.7	0	2.5	0	5.0	0	4.3	3.6	0	2.6	2.1
Pin No.	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**
PLAY	1.7	0	0	2.5	0	0	0	0	2.5	2.5	5.0	2.5	2.5	2.5	0
STOP	2.1	2.1	2.1	2.5	4.8	4.8	0	5.0	2.5	2.5	5.0	5.0	2.5	2.5	0
Pin No.	**76**	**77**	**78**	**79**	**80**										
PLAY	0	2.5	2.5	0	0										
STOP	0	2.5	2.5	0	0										

IC106 NJM4558D

Pin No.	1	2	3	4	5	6	7	8
PLAY/STOP	-	-	-	0	-	-	-	11.5

IC132 LB1641

Pin No.	1	2	3	4	5	6	7	8	9	10
STOP	0	0.5	0.8	0.8	5.0	1.8	11.7	11.7	0.7	0.5
OPEN	0	4.1	5.5	4.1	5.0	0	11.7	11.7	0.7	0
CLOSE	0	0	0.8	4.1	0	4.4	11.7	11.7	4.1	4.1

PIN	Q1101			Q1102			Q1201			Q1202			Q1211			Q1321			Q1371		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
PLAY	4.5	1.8	3.7	5.0	5.0	4.2	9.7	5.0	9.1	5.0	1.2	4.7	0	0	4.6	0	0	0.6	5.0	4.9	1.8
STOP	1.4	1.3	0	5.0	1.3	5.0	9.1	5.0	7.8	5.0	4.9	0.7	0	4.4	0	0	0	0.6	5.0	4.9	1.8

IC & TRANSISTOR VOLTAGES (FRONT SECTION)

(V)

IC261 CXP82440A

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CD : PLAY	3.9	0	4.7	4.7	4.7	1.1	4.7	4.7	4.7	4.7	4.7	4.7	4.6	1.9	0.3
CD : STOP	3.8	0	4.7	4.7	4.7	1.1	4.7	4.7	4.7	4.7	4.7	4.7	4.7	0	0.3
Pin No.	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
PLAY	2.7	2.4	0	4.8	4.5	0	4.5	4.5	4.7	4.3	2.3	1.9	4.8	0	4.7
STOP	2.3	2.0	0	4.8	4.5	4.5	4.5	4.5	4.7	4.7	2.3	1.9	4.8	0	4.7
Pin No.	**31**	**32**	**33**	**34**	**35**	**36**	**37**	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**
PLAY	2.3	3.3	0	2.3	4.7	4.7	2.5	4.8	2.2	2.4	0	2.4	1.8	4.8	0
STOP	2.3	4.7	0	2.3	4.7	4.7	2.5	3.8	2.2	2.4	0	2.4	1.8	4.8	0
Pin No.	**46**	**47**	**48**	**49**	**50**	**51**	**52**	**53**	**54**	**55**	**56**	**57**	**58**	**59**	**60**
PLAY	4.7	0	0	4.7	0	0	0	-	-	-	-	-	-	-	-
STOP	4.6	0	0	4.6	0	0	0	-	-	-	-	-	-	-	-
Pin No.	**61**	**62**	**63**	**64**	**65**	**66**	**67**	**68**	**69**	**70**	**71**	**72**	**73**	**74**	**75**
PLAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
STOP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pin No.	**76**	**77**	**78**	**79**	**80**	**81**	**82**	**83**	**84**	**85**	**86**	**87**	**88**	**89**	**90**
PLAY	-	-	-	-	-	-	-	-	-	-	-	-	-29	4.7	4.7
STOP	-	-	-	-	-	-	-	-	-	-	-	-	-29	4.7	4.7
Pin No.	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**	**100**					
PLAY	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7					
STOP	0	4.7	4.7	4.7	4.7	4.7	4.7	4.7	0	4.7					

IC262 BU2090F

Pin No.	1	2	3	4	5	6	7	8
CD PLAY	0	0.8	0	0	0	0	0	0.8
STOP	0	0.8	0	0	0	0	0	0.8
Pin No.	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
CD PLAY	0.8	0.8	1.2	0	0	0	0	4.7
STOP	0.8	0.8	1.2	0	0	0	0	4.7

IC263 BU2090F

Pin No.	1	2	3	4	5	6	7	8
CD PLAY	0	0.8	0	10.9	10.9	10.9	9.1	0.9
STOP	0	0.8	0	0.5	10.9	10.9	9.1	0.9
Pin No.	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
CD PLAY	0.8	12.1	12.1	12.1	12.1	0	12.1	4.7
STOP	0.9	12.2	12.2	12.2	12.2	0	12.2	4.7

PIN	Q2601			Q2602		
	B	C	E	B	C	E
ON	4.8	4.6	4.8	0	4.8	0
OFF	4.9	4.8	4.9	0	4.9	0

PIN	Q3111			Q3112			Q3121			Q3122			Q3131			Q3132		
	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E	B	C	E
TAPE : PLAY	12.1	0	12.2	12.1	0	12.2	8.1	8.7	8.7	12.2	12.1	12.2	12.1	0	12.2	12.1	0	12.2
TAPE : STOP	12.2	0	12.3	12.2	0	12.3	0	0.3	0.3	11.4	0.3	12.3	12.2	0	12.2	12.2	0	12.3

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